

**APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM)
IN EVALUATING THE QUALITY OF LIBRARY SERVICES AT
THE AGA KHAN UNIVERSITY LIBRARY**

by

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DECLARATION

Student number: **36981664**

I declare that, **APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM) IN EVALUATING THE QUALITY OF LIBRARY SERVICES AT THE AGA KHAN UNIVERSITY LIBRARY** is my own work and that all the scores that I have used or quoted have been indicated and acknowledged by means of complete references.

A handwritten signature in blue ink, appearing to read 'A. Alhamd', is written over a horizontal line.

SIGNATURE

JUNE 2014

DATE

SUMMARY

The study investigated the service quality of the Aga Khan University (AKU) library as an example of an academic library in Kenya using SERVQUAL, a user based assessment tool. Total Quality Management (TQM) philosophy formed the basis of the study; a philosophy that is customer oriented and lays great emphasis on enhancing customer satisfaction.

The study adopted a survey design and data was collected using a structured self-administered questionnaire by the name of SERVQUAL. The study sample consisted of nursing and medical faculty; nursing and medical students. A total of 78 (63%) respondents responded to the questionnaire. The data was analysed using Statistical Package for Social Science (SPSS) version 17.0. Descriptive statistics was provided and univariate analysis was applied to examine the characteristics of the 2 main variables; perceptions and expectations.

The findings of the study established that the expectations of AKU library users are higher than their perceptions. It is also evident from the findings that there are service quality gaps in a number of library services offered by AKU library. This is demonstrated through the gap analysis between the AKU library users' perceptions and the users' expectations of AKU library.

The study recommends that AKU library as well as other academic libraries in Kenya adopt user based assessment tools such as SERVQUAL in the evaluation of library service quality. The study further recommends that AKU library needs to address gaps between the library users' perception and the users' expectation in order to enhance customer satisfaction through the provision of quality services. The study also recommends that AKU library needs to address the gaps in service attributes such as those relating to AKU library staff, reliability and efficiency of AKU library service delivery. In line with the findings the study further recommends more training for AKU library staff in areas such as customer service skills as well as the need for AKU library to invest more in its physical facility and equipment.

Title of thesis:

**APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM) IN
EVALUATING THE QUALITY OF LIBRARY SERVICES AT THE AGA
KHAN UNIVERSITY LIBRARY**

Key terms:

Total Quality Management; Library service quality; Library service quality
assessment; SERVQUAL; Kenya

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“Nothing stops the man who desires to achieve. Every obstacle is simply a course to develop his achievement muscle. It's a strengthening of his powers of accomplishment.”

Eric Butterworth

DEDICATION

I dedicate this thesis to my family for being a constant source of motivation and for continuously cheering me on to complete my studies especially when I felt like despairing. Thank you for your patience and understanding during the days that I had to be away from home and the late evenings trying to complete my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

AKU: Aga Khan University

BScN: Bachelors of Science Degree in Nursing

CHE: Commission for Higher Education

IFLA: International Federation of Library Associations and Institutions

LibQUAL: Web based library service quality evaluation tool

PGME: Postgraduate Medical Education

SERVQUAL: Service Quality tool

TQM: Total Quality Management

UNISA: University of South Africa

CHAPTER 1: INTRODUCTION

1.1 Introduction and Background

Total Quality Management (TQM) is generally viewed as a management approach and philosophy that fosters the culture and attitude of an organisation into providing customers with quality services and products that satisfy their needs (Stark 1998). It embraces the viewpoint that there is a need for continuous improvement of systems and processes regarding products and services in an organisation (Ho 1995:51). Various studies (e.g. Morrow 1997:365; Mehra, Hoffman & Sirias 2001:866; Ling-Yun & Hai-Kang 2005:1362) have been able to ascertain the core principles of TQM as being customer focused and seeking customer satisfaction by producing services and goods of high quality, continuous improvement and teamwork which can be achieved by ensuring regular feedback by the customer. The regular feedback from the customer provides information on the customers' needs and expectations. Kumbar (2004) stresses the importance of continuously being responsive to the demands and needs of a customer.

Though there are a number of TQM frameworks available such as Demings' 14 points, Crosby's 14 steps and Juran's breakthrough strategy there is still confusion on defining the main TQM principles (Morrow 1997:363). These principles are explained further in Chapter 2 of this study, the Literature review, under the sub-section, "History of TQM". Despite the difficulty in identifying one definition for TQM, Wang (2006:607) attempts to provide a clear and comprehensive explanation by looking at the meaning of each of the words: Total, Quality and Management. According to Wang (2006:607) the word *Total* shows that management is no longer based on individual sections or departments handling only their section and not being concerned about the other sections. The word *Total* depicts moving away from the old management method and emphasizing the need for those in an organization being aware of "the whole working process." The word *Quality* which is predominant in the TQM philosophy emphasizes the need to identify customers' needs and expectations and to ensure that the customer is satisfied. The word *Management* advocates for an approach which requires one to continue improving services in line with the ever changing needs of the customers.

Customer focus and ensuring customer satisfaction through the provision of quality services and goods can be traced back to the American, W. Edwards Deming, who after World War II developed the concept to ensure the production of quality goods and improve the supply of services. Deming was approached by the Japanese for training on quality improvement in the period 1948–1959 in order to improve productivity and enhance quality of life which had been destroyed by the war (Zhan & Zhang 2006:344). The TQM philosophy has its principles oriented to customer service and quality improvement and has been accredited with changing Japan into a leading economy after the Second World War (Wang 2006:606).

Quality has already been identified above as predominant in the TQM philosophy. Another important issue is to identify how organisations have measured quality or applied methods to ensure that the requirements of the customers are met. There are various techniques for measuring TQM efforts such as time series (predicting future levels from past figures), use of a control chart (a tool that helps to identify and control processes), cost of quality (determines cost of producing a quality product) and e.g. the Malcolm Baldrige National Quality Award that recognises U.S. organisations in the business, health care, education, and non-profit sectors for performance excellence on an annual basis (Besterfield et al 2003:173). Beside the techniques mentioned earlier, there are internationally recognised standards which were developed for evaluating quality. One of these is the International Organisation for Standards (ISO) 9000 standard. The ISO standardization was founded in 1946 in Geneva, Switzerland and in 1987 the ISO technical committee published a series of international standards for quality systems (Besterfield et al 2003:253). The ISO standardization requires organisations to have their processes and products certified to demonstrate that an organisation has implemented the minimum level of quality control (Kujala 2002:45). Despite the fact that the ISO standardization has been widely accepted and applied to both manufacturing and service industries (Ho 1995:6; Kujala 2002:45; Besterfield et al 2003:253; Zhan & Zhang 2006: 345) it was deemed necessary to develop and apply models or tools that could be applied more specifically to the quality of service in academic libraries (Kiran 2010:261).

1.1.1 International TQM applications in academic libraries

Though TQM was initially applied to manufacturing functions and operations, studies show that it is also applied by service organisations such as hospitals, hotels and schools (Powell 1995:16; Moghaddam & Moballeghi 2008:912 and Mehra & Ranganathan 2008:916). As service organisations, libraries have endeavoured to apply TQM for the improvement of library services as manifested in publications by Pilling 1996; Khurshid 1997; Tam 2000; Alemna 2001; Whitlatch 2003; Ling-Yun & Hai-Kang 2005; Wang 2006. These aforementioned publications describe attempts made to implement TQM to improve library services at various institutions as will be explained further in Chapter 2: Literature review, under the sub-section TQM in academic libraries.

One factor that may however hinder the implementation of TQM in academic libraries is the original reason why TQM came into being, namely to improve profits. Academic libraries are usually non-profit making organisations providing most of their services free of charge. Nonetheless, with serious financial constraints caused by high inflation and reducing budgets, and they are yet required to continue providing services, libraries are now faced with the challenge of ensuring that services provided are as cost effective as possible (Nitecki 1996:181; Alemna 2001:266). Furthermore, it is expected of these service organisations to provide services that meet or exceed the various information needs and expectations of their users. This is in line with the TQM philosophy, as feedback from users would provide knowledge that would be used to provide appropriate quality services. This philosophy has not been a common feature in libraries (Alemna 2001:266) and there is need for libraries to embrace it through a culture of striving to identify users' current and future expectations (Mehra, Hoffman & Sirias 2001:866). Tuomi (2001:3) is of the idea that by embracing these aspects of TQM, academic libraries would move away from the traditional approach of describing quality in terms of the library collection and number of users that is clearly obsolete.

In regards to evaluating service quality, Parasuraman (1988:45) identified five service quality variables namely tangibles, reliability, responsiveness, assurance and empathy.

These variables, as explained in Chapter 2 under the sub-section “service quality variables”, show the dimensions a user would use to form an expectation and perception of a service. In evaluating service quality therefore, the five dimensions should be evaluated and this is possible through the application of developed assessment tools. Application of an assessment tool such as SERVQUAL would be in line with the TQM philosophy as they are user based tools evaluating quality from the users’ point of view. The definition of the term SERVQUAL is expounded in the section on the conceptual setting on page 11 of this study, where the definitions of major terms are defined.

From the earlier discussion it is notable that libraries in the developed countries have attempted to apply various aspects of TQM since the late 1980s (Moghaddam & Moballegghi 2008:916). On the contrary, in developing countries the application of TQM is only evident in a few countries such as India and Pakistan. In Kenya, TQM philosophy has not been embraced in libraries. A study by Ondari-Okemwa (2000:264) found that most library staff were not aware of the TQM philosophy and they were reluctant to adapt and implement it as they did not know what it involved. Notably TQM is being taught as a part of a management unit in the School of Information Science at Kenya Methodist University at undergraduate level although there is still need for more attention in various library schools in Kenya so that librarians are more aware and responsive to the philosophy.

Though it is aforementioned that TQM is not a common feature in libraries especially in Kenya, the concept of quality is however not new in the library environment as it is a basic requirement that all libraries strive to achieve. Nevertheless, libraries need to change the way they have evaluated the quality of services. In Kenya for example attempts in assessing service quality in libraries have been based on collection statistics, circulation statistics, the number of users visiting the library, opening hours and on national standards set by the Kenyan Commission for Higher Education (CHE) to which academic libraries should comply. These CHE standards thus serve as an evaluation tool for higher education institutions including academic library services and facilities (CHE 2007). The essence of the standards is to have academic libraries maintain a certain level

of quality. Such standards are however, in-put based, for example, the number of computers per student, number of journals in the library in a ratio to the number of students, and these standards are not adequate. According to Sahu (2007:234) libraries need to adopt other methods to evaluate library service quality as opposed to the traditional user statistics and also such in-put based methods earlier mentioned. The need for user based evaluation in the library environment has given recognition to user based assessment tools such as SERVQUAL and LIBQUAL among others (Yu et al. 2008:512). Though there has been an increase in the assessment of library service quality in other countries in Europe, America and Asia using the aforementioned assessment tools, libraries in Kenya have not adopted this yet. This brings an urgent need for libraries in Kenya to re-address how they are evaluating service quality especially in these times where libraries are experiencing financial and resource constraints. In line with the TQM philosophy, libraries in Kenya need to ensure that the user is at the centre of all its activities and this can be done by embracing user based assessment tools in the evaluation of service quality.

1.1.2 Service Quality at the Aga Khan University Library

The Aga Khan University (AKU), Kenya, is located in Nairobi, the capital city of Kenya. It is a private, not for profit teaching institution committed to providing the best possible option for diagnosis of disease and team management of patient care, fortified by the highest doctor/patient and nurse/patient ratios and support services in the region. (The Aga Khan Development Network 2007). It is one of the private universities in Kenya and has two faculties in nursing and medicine. The nursing faculty offers an undergraduate degree course in nursing (BScN), while the faculty of medicine offers postgraduate medical education (PGME).

In an effort to evaluate service quality, the AKU library has continued to carry out sporadic surveys based on users' statistics and also according to the stipulated CHE standards. Some of the statistics collected over the years include borrowing statistics, number of users visiting the library, and number of users using online resources. This has been combined with occasional user score cards whereby users are required to rate

various service areas from a range of poor to excellent. These statistics are however not interpreted meaningfully. For instance, would a library with 30,000 books be perceived to have a better service quality than the one with 10,000 books? If 200 people visit the library, where is the indicator that the users' needs and/or expectations were met? These questions show the complexity of evaluating library service quality and also the need for libraries to embrace user based assessment tools.

Like any other academic library in Kenya the Aga Khan University (AKU) Library is faced with the challenge of ensuring that quality services are provided to the different user groups. The challenge is as a result of various factors such as high inflation causing the library to be under pressure to adjust to the increasing cost of providing library services. Other factors include advancement of technology and demand from users for more sophisticated service delivery. The AKU Library has also experienced reduced budgets over the years and yet still expected to continue providing all essential services

1.2 Definition of key terms

This section defines the main concepts that were used in this study. According to Creswell (2009:40) words may have multiple meanings and in formal research it is important to be precise in the use of concepts to avoid ambiguity as well as in the constitution of good science.

1.2.1 Total Quality Management (TQM)

TQM can be defined as a “process-oriented philosophy of enhancing customer satisfaction through the production of higher quality goods and services” (Mehra Hoffman & Sirias 2001:855). Though TQM focuses on many issues, customer focus is predominant (Mehra & Ranganathan 2008:914) with great emphasis on the need to know the customer's expectations and ensuring that these expectations are satisfied (Pegels 1994:6).

In this study TQM will be defined as the process of ensuring quality services are provided by knowing the needs of the customer and ensuring these needs are fulfilled. It

is a customer oriented philosophy that ensures the quality of a service is based on the users' expectations.

In this study the term customer will be used interchangeably with the term user. This is because libraries generally tend to use the term user; however the library service user is also a customer (Manjunatha & Shivalingaiah 2004:145). According to the *Business Dictionary* (2013) a customer is "A party that receives or consumes products (goods or services). It can therefore be argued that the term user is synonymous to the term customer.

1.2.2 Quality

Quality can be defined as the extent in which products or services are able to satisfy users' needs (Tam 2000:350; Besterfield et al 2003:8). According to the ISO 9000 standard (2005) quality is defined as how well a set of inherent characteristics comply with a set of requirements. According to Tuomi (2001:2) the International Federation of Library Associations and Institutions (IFLA) defines quality as "fitness for purpose and purpose is defined by [users]"

In the context of library and information centers, quality relates to performance of the system, quality and quantity of the collection, quality of information products and services and users satisfaction. (Mounissamy & Rani 2004:268). In this study quality will be defined as the ability of the library to meet the needs of the users (Yu et al. 2008:521) and this will be identified by the gap between the users' expectations and perceptions.

1.2.3 Satisfaction

The Oxford advanced learners dictionary (2005:1347) defines satisfaction as "the act of fulfilling a need or desire." The dictionary also defines satisfaction as "the good feeling that you have when something you wanted to happen does happen".

In the context of service quality satisfaction would then be the needs that the user has are fulfilled in the manner that he expected or perceived.

1.2.4 Expectation

The term expectation has varying definitions depending on the context. For example in a business scenario it may be referred to as the “predictions made by consumers about what is likely to happen during an impending transaction or exchange” (Parasuraman, Zeithami & Berry 1988:17). In the context of service quality which forms the basis of this study, expectation is defined as what the customer wants or what the customer expects the library to provide (Parasuraman, Zeithami & Berry 1988:17; Robinson 1999:27).

1.2.5 Perception

The Oxford advanced learner's dictionary (2005:1122) defines perception as “an idea, a belief or an image you have as a result of how you see or understand something.” In the library service quality context, perception is termed as how well the library provides services vis-à-vis the users' expectations about how the services should be (Tuomi 2001:4).

1.2.6 SERVQUAL

SERVQUAL is an item instrument measuring users' expectations and perceptions along with quality dimensions. SERVQUAL is a measurement tool based on the notion that in order to achieve services of high quality there should be a balance between the expectations and perceptions of users and this can be attained by closing the gap between these two (Tuomi 2001:4).

1.3 Research Problem

This section describes the statement of the problem, the objectives and the research questions of the study. According to Bless and Higson-Smith (2000:25) the research problem ensures that the study is reduced to a workable form.

A problem statement should indicate the issues leading to the study while the purpose of the study sets forth the intent of the study (Creswell 2009:111).

1.3.1 Problem statement and purpose of the study

From the earlier discussion it can be concluded that academic libraries in Kenya still evaluate the quality of their library services by means of their library collections, user statistics and opening hours, among other things. These statistics are seldom interpreted meaningfully because there is little indication that the services offered comply with set quality standards or that the services meet users' expectations. Ahmed (2009:18) describes these kinds of so-called evaluation measurement techniques as being obsolete. Ahmed (2009:18) further advocates for the need to involve library users in the evaluation of library services and for libraries to embrace objective and user-based tools when evaluating the quality of library services. The author also argues that a user-based tool such as SERVQUAL that has been used broadly in various services industries including library services is a tool that is adaptable to a local setting.

At the Aga Khan University Library the situation is not any different as the library continues to evaluate its services based on its library collections, user statistics and opening hours, among other things. This is evident from the last evaluation survey statistics produced by AKU library in 2011 (AKU Library 2011). However such evaluation measurement techniques and surveys as applied by the Aga Khan University may seldom be interpreted meaningfully and hence may not enhance customer satisfaction. It is therefore imperative that AKU library refrains from using such obsolete evaluating measurement techniques and instead apply user-based tools when evaluating the quality of its library services. This study therefore aims to evaluate service quality of the AKU library as an example of an academic library in Kenya using SERVQUAL, a user based assessment tool.

With the above background the problem investigated in the study can be summarized as an attempt to investigate the quality of AKU library services based on the satisfaction of the library users with the services and as expressed by and based on the users'

expectations and perceptions. The study will investigate this problem by establishing the AKU library users' expectations and perceptions of AKU library service quality as well as identify gaps between the users' expectations of AKU library services and the users' perceptions of existing AKU library services. This approach is in line with TQM philosophy that places the customer in the centre of all its activities.

1.3.2 Objectives of the study

The study aimed to achieve the following objectives:

1. To review the applicability of TQM in academic libraries
2. To review the variables that determine the users' perceptions and expectations of library service quality
3. To review user based assessment tools for evaluating library service quality
4. To determine the gaps between AKU library users expectations and perceptions of AKU library service quality
5. To investigate the attributes of service quality that meet or do not meet AKU library users' expectations and expectations
6. To investigate demographics that may influence AKU library users expectations and perceptions of AKU library services

1.3.3 Research Questions

The research questions for the study were:

1. How is TQM applicable in academic libraries?
2. Which variables determine users' perception and expectation of AKU library service quality?
3. Which variables of service quality meet or exceed AKU library users' expectations?
4. Are there services at AKU library that fall short of the user expectations?
5. What are the gaps between AKU library users' expectations and perceptions of AKU library service quality?

6. Is there any difference in AKU users' expectations and perceptions in terms of the demographic variables of faculty and students?

Table 1. Research question and data collection instrument for each objective

	Objective	Research Question	Data collection instrument
1	To review the applicability of TQM in academic libraries	How has TQM been applied in academic libraries	Literature study
2	To review the variables that determine the users' perceptions and expectations of library service quality	Which variables determine users' perceptions and expectations of library service quality	Literature study
3	To review user based assessment tools for evaluating library service quality	What user based assessment tools have been applied in evaluating library service quality	Literature study
4	To determine the gaps between AKU library users' expectations and perceptions of AKU library service quality	What are the gaps between AKU library users' expectations and perceptions of AKU library service quality?	Questionnaire
5	To investigate the attributes of service quality that meet or exceed AKU library users' expectations and expectations	Which variables of service quality meet or exceed AKU library users' expectations? Are there services that fall short of the users' expectations?	Questionnaire
6	To investigate demographics that may influence AKU library users' expectations and perceptions of AKU library services	Is there any difference in AKU users' expectations and perceptions in terms of the demographic variables of faculty and students?	Questionnaire

1.4 Literature review and theoretical framework

Over the years academic libraries and libraries in general have recognised the importance of evaluating library service quality in order to provide services that meet the needs of the users. The need to evaluate has been recognised as imperative in supporting learning and research in an academic environment (Shi and Levy 2005:267). This need has been necessitated by the advancements in technology. Besides advancement in technology, other factors that have necessitated the need to evaluate library service quality include change in user behaviour, demand for more sophisticated services as well as the economic crunch that has seen a great reduction of library budgets (Nitecki 1996:181; Kavulya 2006:29; Research Information Network 2010:5). Though the budgets have been reduced, the cost of providing library services has continued to escalate at an alarming rate and despite this libraries are still required to provide the same services (Shi & Levy 2005:267; Awan, Azam & Asif 2008:51).

In a bid to evaluate library services, libraries have continued to collect various service counts statistics such as the number of books borrowed, the number of reference questions asked, amongst others. According to Nitecki (1996:182) and Shi and Levy (2005:267) these kinds of statistics are not sufficient as they do not provide meaningful findings for improving services systematically. This traditional approach is also criticised as it is based on the perception of the libraries describing the occurrence of services and hence not an objective approach. Effective evaluation of service quality is ensuring that the perspective of the user is considered. According to Sahu (2007:235) quality is the ability to meet a stated need. Azam and Asif (2008:52) suggest that quality would be meaningless if customer satisfaction is not achieved.

The customer as the most important factor in service quality is advocated through the Total Quality management (TQM) philosophy which guides this study. Though many have tried to define TQM, the commonality in the definitions is the importance to understand ones' customers and subsequently provide services that meet the needs of the customers (Wang 2006:608).

The theoretical framework for this study is guided by the TQM philosophy and the gap model that has been applied in the evaluation of service quality

1.4.1 TQM

Total Quality Management (TQM) is an improvement to traditional management because it is both a philosophy as well as a set of principles that provide guidance to the continuous improvement of an organisation through customer satisfaction by way of providing quality services (Besterfield et al 2003:1) It is a philosophy that brings a cultural change to an organisation and it ensures a culture that seeks for quality at all times (Stark 1998) leading to customer satisfaction (Ho 1995:51). Customer satisfaction is therefore the core principle of TQM and this can be achieved by being responsive to the needs of the customer (Ho 1995:51; Morrow 1997:365; Mehra, Hoffman & Sirias 2001:866; Kumbar 2004; Ling-Yun & Hai-Kang 2005:1362). Besides providing quality services, TQM requires continuous improvement as the world is constantly changing and the needs of the customers also continue to change. Processes therefore need to be continuously reviewed and improved and this is due to the fact that the quality of a product or service is a result of the quality of the process or processes (Moghaddam & Moballeghi 2008:914).

As earlier mentioned in sub section 1.1 of this chapter, there are a number of TQM frameworks available, nevertheless, all frameworks refer to the customer and importance to ensure the customer needs are met predominantly through quality service.

1.5 Scope and limitations of the study

The TQM philosophy involves a wide range of aspects such as team work, staff development, and systematic improvement among others. However, studying the whole range is beyond the scope of any one study and this study will therefore be limited to the aspect of customer satisfaction through the provision of quality service. This is because quality is a key aspect in the TQM philosophy which places great emphasis on identifying the needs of a customer and ensuring those needs are met.

This study was based on a case study conducted at the AKU library and the findings cannot therefore necessarily be generalised to other academic libraries in Kenya.

Another notable limitation of the study is that though the AKU library serves an academic and non-academic population, it is limited to the academic population only; namely students and faculty members. The findings therefore cannot necessarily be generalised to the whole library user population and hence the researcher proposes further research on the non-academic population.

1.6 Research Methodology

According to Babbie (2001:75) research methodology “focuses on the research process and the kind of tools and procedures to be used” as well as on the specific tasks employed in the study. This section will therefore focus on the research approach, research design, populations, sampling methods, data collection method and analysis.

1.6.1 Research approach

A descriptive non experimental quantitative approach was used in this study. A quantitative approach compares different variables and relies on measurement and provides descriptive opinions that are quantitative in nature derived from a sample (Bless & Higson-Smith 2000:37; Creswell 2009:12). A quantitative approach will enable the researcher to carry out a survey with the use of a structured questionnaire that will yield statistical data for analysis. The quantitative approach was deemed appropriate for this study as the statistical data from a valid assessment tool will yield valid and objective results. According to Creswell (2003:7) a quantitative approach provides an objective reality of what is in existence.

1.6.2 Research design

Bless and Higson-Smith (2000:63) define research design as “a specification of the most adequate operations to be performed in order to test a specific hypothesis [research

questions] under given conditions.” The study used a survey design to provide “quantitative description of trends or opinions of a population by studying a sample of the population” (Creswell 2009:12). According to Babbie and Mouton (2001:231) in a survey design “the researcher selects a sample of respondents and administers a standardized questionnaire”. Through this design the researcher evaluated the quality of AKU library services based on the satisfaction of users with these services and as expressed by and based on the users’ expectations and perceptions. To draw conclusions for the research the researcher applied inductive reasoning whereby the conclusion was drawn from a sample which represents the population (Leedy 1993:110; De Vos et al. 2004:53). This design was found appropriate due to its rapid turnaround in data collection and also due to the fact that it is an economical design (Creswell 2009:146).

1.6.3 Scope and target population

The population of this study was defined as all registered library users of Aga Khan University. The population consisted of nursing and medical faculty; nursing and medical students. The registered members were as follows: nursing faculty (n=16), nursing students (n= 63), medical faculty (n = 38), medical students (n=63). The total population, N=180. The letter N in upper caps represents the total population and in this study this was computed by adding the members in each stratum represented by the letter n in lower caps. These letters used are accepted sampling terminologies (Bless & Higson-Smith 2000:88; Johnson & Christensen 2012:218). A sample of the total population was used.

Table 2. Population for each stratum

STRATA	POPULATION
Nursing Faculty	16
Nursing Student	63
Medical Faculty	38

Medical Student	63
TOTALS	180

This study included the library first time users and those who have used the library for a longer period by including first year students to final year students. Carman's study on "Consumer perceptions of service quality" (1990) acknowledges that expectations may change over the years as users become familiar with the services and therefore including first time users and those who have used the library longer may provide responses which may be considered as representative for all users' expectations and perceptions.

1.6.3.1 Sampling procedure

Sampling is a technique or procedure carried out in research in an effort to draw a sample that is considered to be representative of the population and allows generalization of the results (Bless & Higson-Smith 2000:86; Balnaves & Caputi 2001:90; De Vos 2004:198).

In this study random sampling was used. With random sampling each individual has an equal probability of being selected and this ensures that the sample is representative of the population. According to Creswell (2003:164) random sampling produces a sampling error that is as small as possible and also maximizes on external validity. Chapter 3 on research methodology will provide more information on this sampling technique.

1.6.3.2 Sample frame

In order to ensure that the sample is representative it is important to use a complete and correct sampling frame i.e. a list of the entire population from which the sample will be drawn.

The sampling frame was obtained from the AKU library management system. This was done by generating a list of the population from the AKU library management system as will be explained in Chapter 3 under Research Methodology. To ensure that all user

groups were represented, the heterogeneous population was stratified into homogeneous groups. This was done by dividing the sampling frame into homogenous subgroups (strata) i.e. medical students, medical faculty members, nursing students, nursing faculty members.

1.6.3.3 Sample Size

The formulation of the sample size is vital to ensure that the sample represents the population and this is expressed as a probability to signify that there is 95% chance the sample is representative (Bless and Higson-Smith 2001:94). Since the baseline estimate of the level of satisfaction amongst library users is unknown, it is assumed a satisfaction level of 50%, to give maximum sample size at 95% level of confidence with a margin of error of $\pm 5\%$. The purpose of this assumption was to determine an appropriate sample size for the study.

In order to estimate the size of the sample to be selected for this study in a finite population of 180 registered library users, a formula was used as explained in Chapter 3, section 3.4.3. The aforementioned formula was therefore used in order to determine proportional sample size for each stratum and the percentage each stratum should contribute was calculated as explained in Chapter 3, section 3.4.3.

The percentage each stratum should contribute to the sample as well as the proportional sample size per stratum is presented in table 6 in Chapter 3.

1.6.4 Data collection instrument

A close ended self-administered questionnaire also known as a structured questionnaire that provides the respondents with a choice of answers was used as the instrument of choice for data collection. This type of questionnaire has an advantage of allowing quantitative analysis of the results in an easy manner (Bless & Higson-Smith 2000:119). Furthermore a self-administered questionnaire is deemed appropriate when the population under study is sufficiently literate (Babbie & Mouton 2001:258). In this study the population consisting of doctors and nurses can be considered sufficiently literate.

The questionnaire used in this study was an existing questionnaire called SERVQUAL which was developed in 1988 by Parasuraman (Parasuraman, 1988:14) and the questionnaire will be explained further in Chapter 3.

1.6.4.1 Reliability and validity of the instrument

Two important considerations in evaluating any type of measuring technique are the principles of reliability and validity (Leedy 1993:40; Bless & Higson-Smith 2000:12).

According to Bless and Higson-Smith (2000:12) reliability is concerned with how consistent the measures are i.e. the instrument should produce the same results when repeated. Validity on the other hand is concerned with what the instrument actually measures, in other words, the instrument is actually measuring what it is meant to measure. Validity is concerned with the effectiveness and soundness of the instrument (Leedy 1993:40).

The researcher chose to use SERVQUAL for this study because it is an instrument that has been researched extensively for reliability and validity (Crossno et al 2001:170; O'Neill, Wright and Fitz 2001:405; Derfert-Wolf, Gorski & Marcinek 2005: 4; Shi & Levy 2005:268; Yu et al 2008:516; Shoeb & Ahmed 2009:194).

Though studies have shown the validity and applicability of SERVQUAL further studies have shown that SERVQUAL does not query the technical dimensions of library services (Gronroos 2001:151; Nagata et al 2004:54; Ahmed 2009:21). These studies argue that the original SERVQUAL questions only evaluate the service process and additional technical dimensions are important because they evaluate outcomes. In view of this the technical attributes will be adopted from a study by Ahmed (2009:21) for the reason that the validity of the service items added to the original SERVQUAL was tested.

This study therefore used a modified SERVQUAL instrument with 30 questions in each section i.e. expectation and perception. In addition to the original 5 dimensions i.e.

assurance, empathy, reliability, responsiveness and tangibles, two other dimension namely collection & access and library as a place were added. The technical attributes included questions on library website/portal, online catalogue, printed material such as brochures and online resources. These additional technical attributes as earlier mentioned were adopted from a study by Ahmed (2009:21) for the reason that the validity of the service items added to the original SERVQUAL was tested.

1.6.5 Data analysis

The data was collected and entered in Microsoft Excel and analysis of the data was done using Statistical Package for Social Science (SPSS) version 17.0. Descriptive statistics was depicted using simple percentages, bar charts, pie charts and frequency tables. Univariate analysis was applied to examine the characteristics of the 2 main variables; expectations and perceptions. This was to examine the distribution, central tendency and dispersion.

The researcher engaged the services of a statistician to assist with the data analysis.

1.7 Importance of the study

The findings of this study will be important as it will raise awareness in Kenya on the evaluation of library service quality using user based assessment tools. The findings will also be important for the Aga Khan University library as this will provide an opportunity to evaluate the quality of the library services using a user based assessment tool and hence provide data on the perceptions and expectations of the AKU library users. From the findings the AKU library will also be able to establish whether it is providing services that meet the needs of the users.

Possible benefits of this study include contributing to a better understanding of the application of TQM in academic libraries, users' expectations and perceptions of quality and perhaps suggest service areas that may require improvement.

Having knowledge of the users' expectations is important as the services provided would be driven by this knowledge. The study will gather this knowledge that can be of benefit to decision makers in directing resources to the right service as libraries continue to face the challenge of providing cost effective services in a resource challenged era. The data on user perception and expectation would enable the delivery of service to be matched to the users' needs (Tuomi 2001:4) as opposed to maintaining traditional methods that have become obsolete or assumptions from staff that may be inaccurate (Nitecki 1996:185).

The study will add to the existing data and knowledge on the evaluation of library service quality in developing countries specifically in Kenya. This will hopefully lead to further development of quality standards in Kenya by embracing objective measurement tools for the evaluation of library service quality.

1.8 Ethical Considerations

1.8.1 Scientific honesty/integrity on researcher's part

The researcher ensured integrity during the research process by ensuring that the required scientific process is observed and the results are reported accurately. This was guided by UNISA's research ethical policy by adhering to the following statements:

- i. Written authorisation to carry out the research was provided by the institution under investigation.
- ii. The purpose and procedure of the study were explained in the questionnaire to be sent out to participants.
- iii. The study ensured confidentiality and anonymity on the part of the participants.
- iv. Accurate findings were presented (UNISA 2007:9).

In order to ensure that there was no case of plagiarism, all the sources used were acknowledged. This was done by acknowledging the sources by way of citing the references within the text as well as listing the full references under the list of references in alphabetical order.

1.8.2 Permission from Research committee

Since the Aga Khan University (AKU) has a research committee that approves all studies carried out in the AKU setting, permission was sort from the said committee.

1.8.3 Confidentiality and anonymity

Participants' identification information such as names was omitted from the questionnaire to ensure confidentiality. The information on confidentiality was also indicated on the questionnaire informing the respondents that the information provided will be confidential and will only be used for the study.

1.9 Outline of dissertation

The first chapter describes the background to the study, statement of the problem, purpose, objectives, research questions, delimitation, justification, assumptions. A brief introduction to the study methodology is also discussed.

The second chapter reviews existing literature on TQM in general, TQM in libraries, evaluation of service quality in libraries, service quality variables and user based assessment tools for evaluating library service quality.

The research methodology that was used to carry out this study is described in Chapter 3. The research design, research population, sample and sampling techniques, data collection and data analysis was elaborated.

The fourth chapter reviews and presents the findings of the data collected while the findings of the study is discussed in the following chapter in relation to the research questions.

The sixth chapter provides conclusions and recommendations from the discussed findings in chapter four.

Finally, appendices and references are provided.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The literature review is an essential part of research as it enables the researcher to sharpen and deepen the theoretical framework of the research, to familiarise him/herself with developments in the research area, identify knowledge gaps, identify valid and reliable instruments and ascertain accepted definitions of key concepts (Bless & Higson-Smith 2000:20; Mouton 2001:87). It is however important not to think of the literature review as a mere collection of existing texts and in view of this, Mouton (2001:87) refers to the literature review as a review of scholarship.

2.2 Service Quality

There has been significant interest in the measurement of service quality especially in the library environment (Jayasundara 2011:25). In an era of exponential technology growth, economic crisis, user behaviour change and as users continue to portray more sophisticated needs among others, it is becoming essential to ensure that services provided are of high quality. The term “quality” however can be an elusive term with varying definitions. As earlier mentioned in Chapter 1, Section 1.2.2, IFLA has defined quality as “fitness for purpose” while Tuomi (2001) defines quality as features or products that meet the needs of the users. Due to the complexity of defining the term quality, there has been a lot of debate on how to define quality in service organisations i.e. service quality. This is because service is intangible and thus more complex. According to Somaratna, Peiris and Jayasundara (2010:2) this complexity is due to the fact that service quality “begins with design and is present through the whole process of delivery and performance, with assessment during the delivery process”. Similarly Brysland and Curry (2001:391) having looked at various definitions concluded that service quality refers to when an intangible something is provided in such a way that the

customer is pleased. From the various definitions, it can therefore be argued that service quality is essentially about ensuring that the customer is satisfied.

Though service quality is a difficult concept to define there seems to be a general consensus that service quality should be determined by the customer. This means that the customer perception of the service defines and measures service quality (Jayasundara 2011:26). According to Somaratna & Peiris (2011:1) this is the most recognised definition of service quality for the reason that a service should meet the needs of the customer it is meant for and hence it is only fitting for the intended customer to indicate whether the needs have been met.

Since the expectation of a service may influence how a service is perceived, service quality can therefore be conceptualised as the discrepancy between the users' expectation and their perceptions. This has been a widely accepted definition which is founded on the gap theory whose origin can be traced to Parasuraman, Zeithaml & Berry in 1994. (Jayasundara 2011:26; Somaratna & Peiris 2011:1)

The ever rising expectations of users, user information behaviours and the complexity involved in providing information are some of the reasons that have contributed to the need for libraries to address whether the services provided meet the needs of the users. Furthermore, rapid technological advancement and increasing cost of information have also added to expectations of the parent organisation and more so of the users. As a result libraries are therefore required to review the traditional methods of evaluating their services in order to fulfil user needs as well as show relevance, transparency and accountability (Sahu 2006:187).

The traditional methods libraries have used over the years are no longer adequate. Describing the quality of library service through the size of collection or opening hours "no longer fulfils the goals for successfully meeting the users' demands for information" and are thus deemed obsolete (Sahu 2006:187).

In view of the various definitions of quality it is important to note that the critical issue alluded to is the necessity to meet the needs of the users thus leading to customer satisfaction. Satisfaction is therefore a key factor in service quality. Other key factors that are also depicted in the definitions of service quality are “satisfaction”, “expectation” and “perception” which have been defined in chapter 1 under the conceptual setting sub-section.

2.2.1 Service Quality Variables

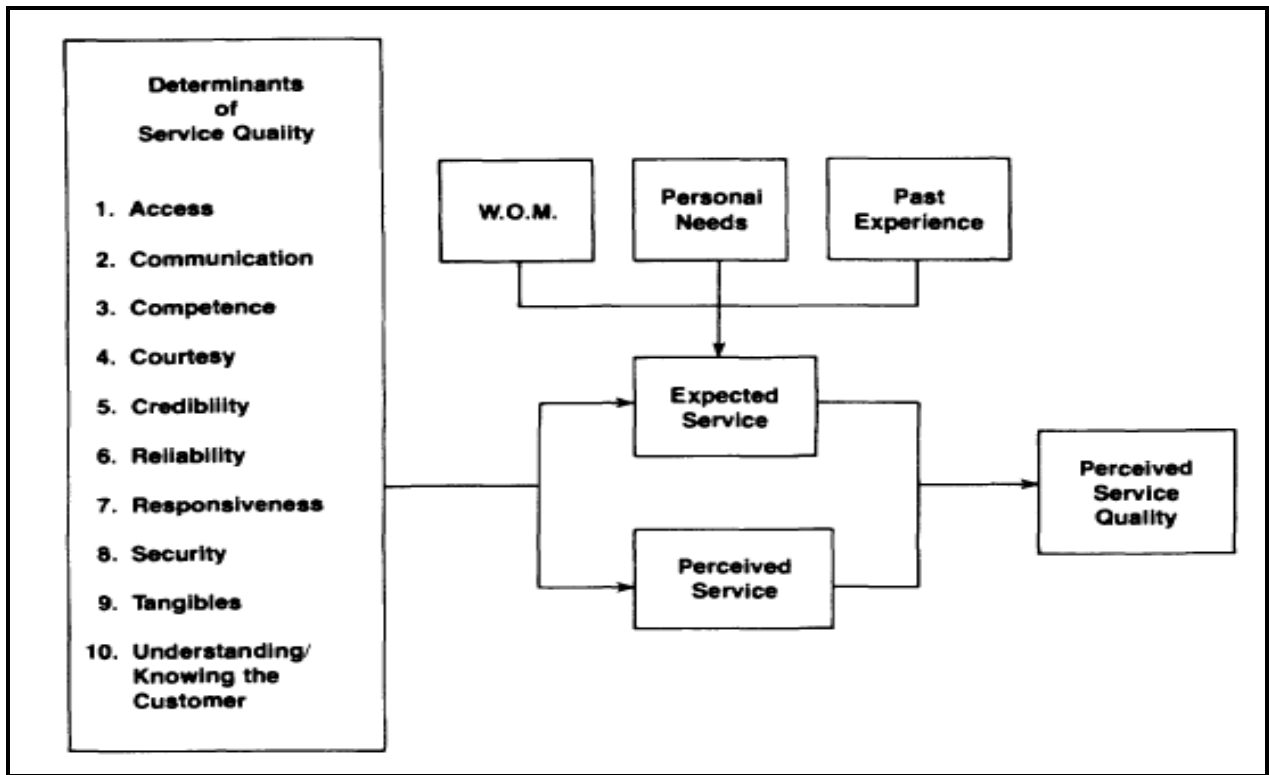
The underlying principle of this study is the TQM philosophy the main focus of which is the customer. Service quality should therefore be determined by evaluating the variables that a customer would use to determine quality. In an attempt to conceptualise service quality Parasuraman, Zaitham and Berry in 1984 identified four (4) gaps that can affect quality in an organisation. They also identified variables that users apply to determine quality. The authors argued that within each variable a user’s expectation and perception of the service should be met. A quality problem is therefore caused if there is a gap between the expectation and the perception of the user (Parasuraman, Zaitham & Berry 1985; Parasuraman, Zaitham & Berry 1988). Based on extensive research within various service industries, Parasuraman, Zaitham and Berry (1985:46) concluded that customers use the same dimensions to determine whether a service is of quality or not. The research revealed that the same criteria are used by consumers regardless of the type of service (Parasuraman 1985:45). This study brought about service quality variables as listed in table 2 that shows the “dimensions that consumers use in forming expectations about and perceptions of services” (Parasuraman 1985:49). The study also showed the “determinants of perceived service quality as shown in fig 1.

Table 3. Service Quality Variables

VARIABLES OF SERVICE QUALITY	
RELIABILITY	This involves consistency of performance and dependability.
RESPONSIVENESS	This concerns the willingness or readiness of employees to provide service. It involves timeliness of service.
COMPETENCE	Means possession of the required skills and knowledge to perform the service
ACCESS	Involves approachability and ease of contact
COURTESY	Involves politeness, respect, consideration and friendliness of contact personnel.
COMMUNICATION	Means keeping customers informed in language they can understand and listening to them
CREDIBILITY	Involves trustworthiness, believability, honesty. It involves having the customer's best interests at heart
SECURITY	This is the freedom from danger, risk or doubt
UNDERSTANDING/ KNOWING THE CUSTOMER	Involves making the effort to understand the customer's needs
TANGIBLES	These include the physical evidence of the service

Source: Parasuraman, Zeithaml & Berry (1985:47).

Figure 1. Determinants of perceived service quality

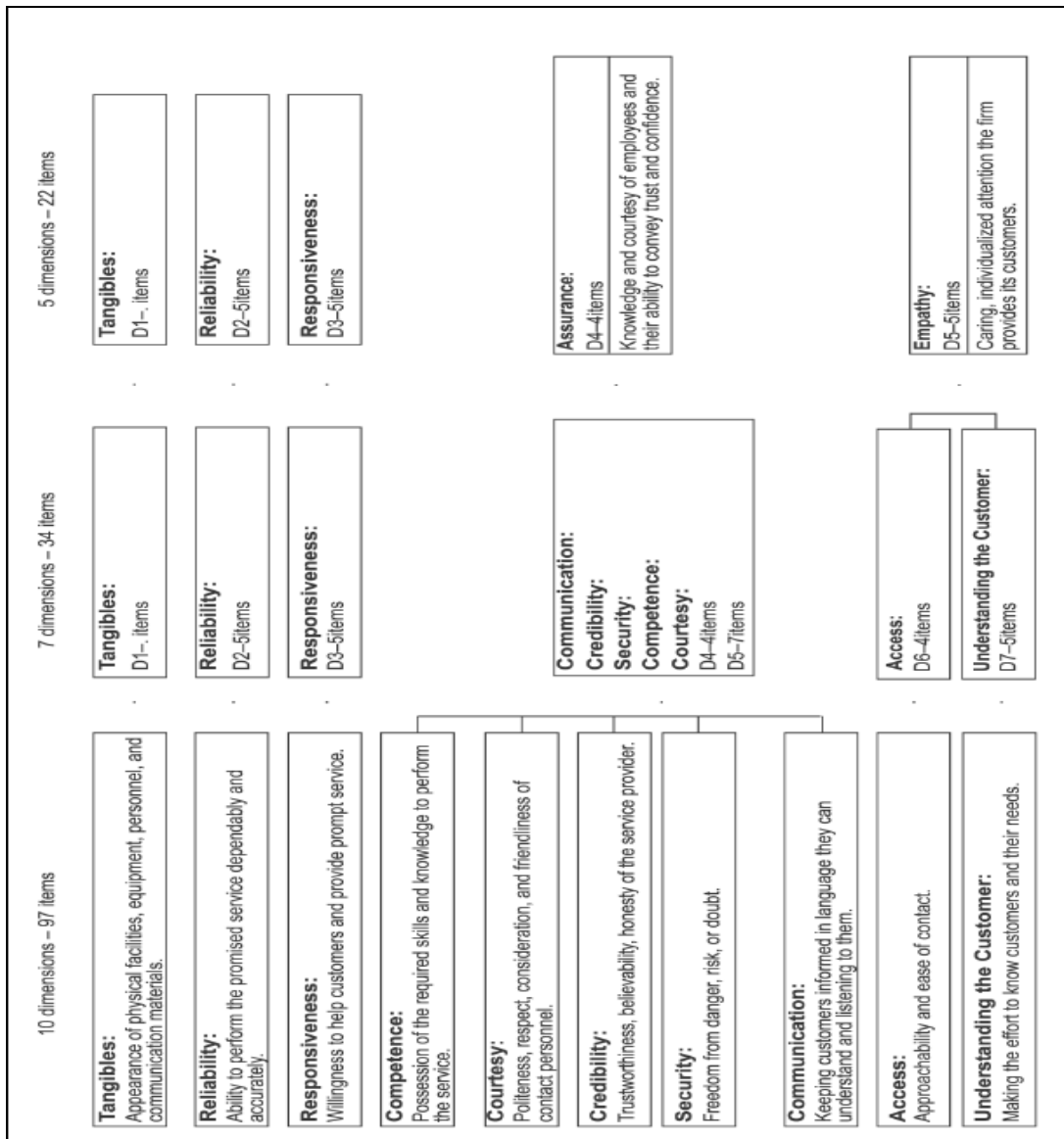


Source: Parasurman, Zeithaml & Berry (1985:48)

The above dimensions are important in the conceptualization of service quality construct and these have led to the development of tools that can be used to measure the construct (Parasuraman 1988:14).

In their research analysis Parasuraman, Zeithaml and Berry (1985:47) were able to identify the 10 dimensions mentioned above in 1985 and later re-evaluated and condensed to 5 dimensions in 1988 (Nagata et al 2004:54). Figure 2 adopted from Nagata et al (2004:55) shows the development of the service quality dimensions from the initial 10 dimensions to 5 dimensions.

Figure 2. Development of service quality dimensions



Source: Nagata et al (2004:55)

2.3 Total Quality Management (TQM)

As earlier defined the term “quality” may have various meanings depending on the context. In simple terms it is a term that can be used to denote something that is good. In a strategic context and when one is referring to services or products it refers to a situation when the needs of the customer have been met (Dongare 2011:111). According to Sahney, Banwet and Karunes (2004:145) the word quality “has been derived from the Latin word *qualis*, meaning ‘*what kind of*’. The authors also acknowledged that the word is a difficult term to define due to its different meanings thus referring to it as an “elusive term”. However despite the various definitions of the term “quality” the various definitions refer to a product or service that meets the customer or user requirements as well as a product or service that fits the purpose (Sahney, Banwet & Karuness 2004:147).

Due to its complexity it is then important for an organisation, institution or department to identify an appropriate method of ensuring service quality is realised. One way to achieve this would be to adopt a philosophy such as Total Quality Management (TQM). This is because total quality management is a customer oriented philosophy (Moghaddam & Moballeghi 2008:912; Martins & Toledo 2000:148). According to Moghaddam & Moballeghi (2008:912) it is defined as “both a philosophy and a set of guiding principles that represent the foundations of a continuously improving organisation”.

According to Stark (1998) TQM is referred to as a philosophy as it brings a cultural change to an organisation. Ngware, Wamukuru and Odebero (2006) clearly articulate the guiding principles of TQM which they also refer to as the “pillars of TQM” and argue that TQM can only be successful if these principles are embraced. The principles they refer to are as follows:

1. Good leadership – this is the process of ensuring that all staff and employees are motivated and enthusiastic enough to work towards meeting the objectives of the organisation
2. Employee empowerment – this involves proper delegation of responsibilities as well as continuous development of employees through training programmes

3. Strategic quality planning – this refers to the ability to plan through the development of strategic goals and activities that are geared toward achieving quality.
4. Human resource development - this involves the recognition of the employees' potential as well as providing an enabling environment that encourages self-development through training in order to update, develop or improve their skills

The main focus of TQM being the customer, it is important to ensure the needs of the customer have been met through the provision of high quality services and goods. For this to be achievable there has to be commitment from the management. There also has to be clear communication to ensure that all staff members are aware of the quality mission and they work as a team to achieve quality. It is also imperative that the organisation works towards changing the culture to one that ensures high quality is adhered to with zero tolerance to defect and errors. This sort of culture requires team work and total commitment from all those working in the organisation (Ho 1995:51). It also requires all the processes in an organisation to be well integrated with the focus on the customer (Moghaddam & Moballeghi 2008:913).

Though this concept first originated in the manufacturing sector, it has been embraced in service sectors including libraries (Moghaddam & Moballeghi 2008:912). Continuous improvement leads to the success of a department or section and subsequently the whole organisation. Therefore since TQM is customer oriented and aims to provide quality products and services its philosophy should arguably be embraced in order to achieve service quality. This is explained by Moghaddam and Moballeghi (2008:914) who indicate that “the TQM organization is sensitive to customer requirements and responds rapidly to them. Since TQM advocates for the need for continuous improvement of all activities as well as ensuring quality services, customer satisfaction is therefore achieved. This is because the customer can only be satisfied if the service meets his or her needs and requirements. Hence the TQM philosophy is an essential philosophy which can guide an organisation in a world that is constantly changing.

It can also be argued that TQM is an essential philosophy that should be adapted in libraries as this may provide the library with a structure towards achieving its goals. Since the core business of a library is to ensure information is well organised for the purpose of easy retrieval and use it is therefore imperative to ascertain that this goal is achieved. According to Kumbar (2004) the library is a “business that must be operated efficiently” in order to meet the needs of its customers. In this context the identification of users’ needs and expectations is essential to better understand their needs and subsequently respond to them through the provision of quality services.

2.3.1 History of TQM

The origin of TQM can be traced to 1949 in Japan after World War II when the Japanese saw the need to improve quality and productivity of their businesses that were destroyed during the war. Adopting TQM saw a remarkable improvement in the Japanese economy and it has been credited with making Japan a leading economy after the World War (Ho 1995:53; Stark 1998; Kujala 2002:41; Besterfield et al 2003:9;). This great improvement in Japan’s economy was the evidence that saw many other countries embrace this philosophy. However, some countries such as the United States of America (USA) did not adopt the TQM philosophy immediately though they noted the economic prominence Japan was taking. In the USA for example, firms began to appreciate the importance of TQM in the 1980s when they observed the productivity of Japanese firms and also the standards of the products which were being perceived as better quality than those of American firms (Talha 2004:15). This eventually saw large American firms such as Ford and Motorola among others adopting TQM in a bid to restore their economic competitiveness. A study by Arthur (1992) as reported by Powell (1995:15) shows that out of 500 largest America firms, 93% of them had adopted TQM in some form. Powell (1995:17) further explains that TQM has continued to be embraced by many organisations all over the world and has been accepted by notable bench markers and has been recognised in “Fortune 1000 firms”.

It would be incomplete to discuss the origin of TQM without recognising the contributions of the authorities (gurus) behind this philosophy. One among the many gurus of TQM is Dr W. Edwards Deming who is referred to in the literature as the “godfather” of TQM. He developed 14 points (Table 1) that provided a management theory for productivity and quality improvement (Besterfield et al 2003:4; Wang 2006:608).

Table 4. Deming’s Fourteen (14) Points

1.	Create constancy of purpose for improvement of product and services
2.	Learn the new philosophy
3.	Understand the need for inspection and cease dependence on mass inspection
4.	Stop awarding business on price tag alone
5.	Constantly and always improve the systems of production and services
6.	Institute training on the job
7.	Institute modern methods of supervision and leadership
8.	Drive out fear and create an environment of trust and innovation
9.	Encourage team work and break down barriers between departments
10.	Eliminate exhortations and numerical goals for the work force
11.	Eliminate work standards and numerical quotas
12.	Remove barriers to pride of workmanship
13.	Encourage self-development through education and training for everyone
14.	Take action to accomplish the never ending process of improvement

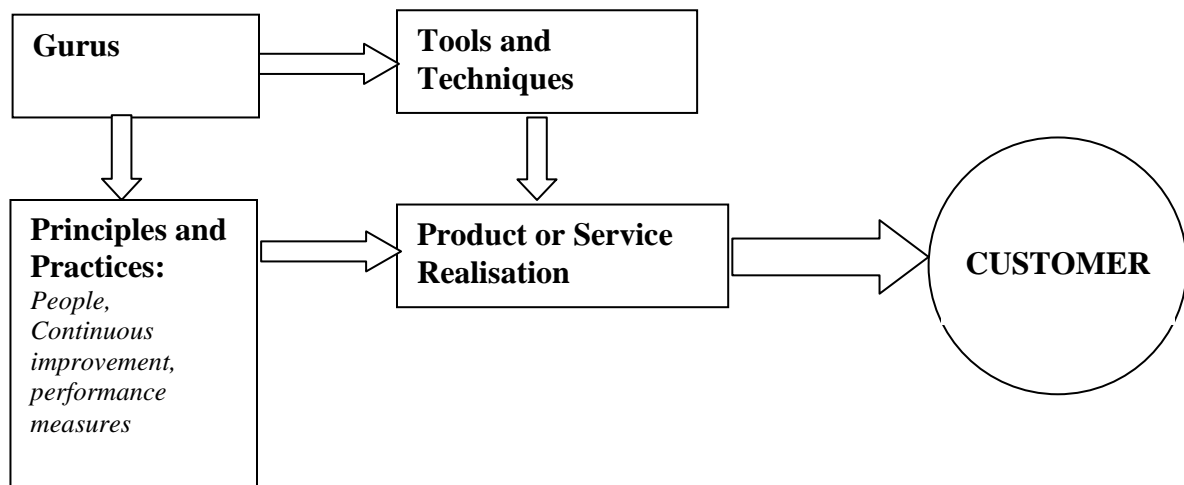
Source: Besterfield et al. (2003:27)

Other gurus of TQM include Walter Shewhart, Joseph Juran, Armand Feiganbaum, Kaoru Ishikawa, Phillip Crosby and Genichi Taguchi. Phillip Crosby, for example emphasised the need to “doing it right the first time” and he argued that it costs more to correct and detect errors (Besterfield et al 2003:5). Crosby is also known to have authored the book *Quality is Free* which was published in 1979 and translated into 15

different languages. This book brought a revolution in USA and Europe in the way quality was perceived (Besterfield et al 2003:5; Wang 2006:608).

Without identifying each guru's contribution to TQM, it can be summed up that they all revolutionised quality with emphasis in various aspects such as commitment at all levels in an organisation, importance to identify customer needs, performance measures, continuous improvement and team work. Though the gurus had various considerations and approaches one aspect they all had in common was the importance to understand one's customer and subsequently provide services and goods that meet the needs of the customer. Customer satisfaction was therefore paramount to the gurus (Wang 2006:608) and this can be illustrated as follows:

Figure 3. Approach of TQM's gurus



Though the approach and critical factors of TQM may differ from one author to another we can recapitulate that the common issue is that in practice an organization “may follow known, accepted, standard models as a guide to carry out quality” (Tari 2005:186)

2.3.2 TQM in Academic libraries

With regard to products in an industry, quality depends on factors such as raw materials, process of production among others. Similarly with regards to libraries quality depends on collection development and the technical process applied to the collection, equipment, services rendered, among others (Moghaddam & Moballegi 2008:915). This demonstrates that TQM is not only applicable to manufacturing industries but can also be applied to service industries such as libraries. According to Moghaddam & Moballegi (2008:916) the application of TQM in libraries

started in the late 1980s and is an American response aiming at customer satisfaction by way of meeting the requirements and expectations of customers.

According to Martins and Toledo (2000:147) TQM application is vital as it enables an organisation to concentrate on the things that require improvement in view of providing quality products or services to customers.

With high inflation rates and reducing budgets but still required to continue providing services, libraries are faced with the challenge of ensuring that services provided are cost effective and more so of high quality. Libraries therefore, need to embrace philosophies, methods and strategies that will ensure this is achieved. TQM is one strategy that can be applied to academic libraries as its philosophy is embedded in the need to know the customers and to ensure the needs of the customer are met. TQM emphasises the need to provide customer oriented services and this can only be achieved if there is an attempt to find out what the customers' needs are.

The TQM philosophy encompasses various aspects that include customer driven quality, commitment from top management, staff satisfaction, staff development, continuous improvement among others. The key aspect however is to achieve customer driven quality by ensuring that the customers' needs are met and the customer is satisfied.

Providing customer driven quality therefore requires one to know the expectations and perceptions of the customer and subsequently closing the gap between the two.

Due to various developments in the library environment such as advancement in technology, more online resources and user sophistication, libraries face the danger of diminishing library usage if they do not evaluate and improve the services. Libraries therefore need to be more sensitive to service quality and this can only be realised by determining what users want and endeavouring to satisfy these needs. As mentioned in the background to this study in chapter 1, various libraries in developing countries, for example, Harvard College Library, Oregon State University Libraries, British Library Document Supply Centre among others, have attempted to explore various aspects of TQM, which attributed to the improvement of their service quality. Some of these aspects include customer satisfaction surveys and staff development (Wang 2006:609). The Oregon State University Libraries for example attempted to implement TQM with the shelving and document delivery teams with the aim to improve services and at the same time increase staff morale. A user satisfaction survey would for example identify the needs of the user and may assist in reducing the commitment of resources to areas that may not necessarily be important according to the users' feedback. A study by Butcher (1993) at the Oregon State University Library, as reported by Wang (2006:611) for example found that issues staff perceived critical for the users were not perceived to be critical by the users themselves. This shows that libraries need to engage users in evaluating services as this would ensure that services provided meet their needs.

The Aga Khan University Library being no exception from other universities worldwide has been under pressure to adjust to the increasing cost of providing library services. As earlier mentioned the advancement of technology and demand from users for more sophisticated service delivery also come as a challenge. These challenges are not any different from those experienced by manufacturing firms thus making TQM appropriate in the library environment.

Though TQM involves various aspects, the core concepts are to understand and take into consideration the needs of the customer as well as improving the services to meet those needs. It can therefore be argued that evaluating the quality of services offered from the users' point of view is in line with the TQM philosophy. Systematic feedback from the users is the best way to measure quality of the services (Whitlach 2003:27) and this feedback should be collected regularly as opposed to sporadic surveys such as those carried out at the Aga Khan University (AKU) library.

2.4 Evaluating Library Service Quality in Kenya

Kenya has continued to experience a significant and exponential growth of universities and this has been as a result of the increasing demand for higher education in the country. This growth has resulted in Kenya having one of the largest higher education systems in the African continent (Bailey, Cloete & Pillay 2009:16). Higher education is however faced with major cut backs in funding and the institutions are still required to continue offering services with decreasing budgets (Chacha-Nyaigotti 2004:7). The difficulty of offering services with reduced budgets has over the years been reviewed by the government and there has been an attempt to increase funding towards higher education. Though the government eventually increased budget allocations to higher education, universities have continued to experience an increasing number of programmes and increased enrollment resulting in an increasing recurrent expenditure (Bailey, Cloete & Pillay 2009:20; Otieno & Colclough 2009:61). There has also been an exponential growth in the numbers of universities in Kenya and therefore the government has been faced with further financial constraints in trying to fund higher education using the already limited government funds. Universities therefore continue to experience financial challenges and the university libraries thus operate within the limited financial environment.

As universities continue to experience financial constraints the library operations and services are subsequently affected. Furthermore, as the costs of offering library services escalate every year at an alarming rate, the library seems to be a large cost centre that

continues to utilise huge institutional budgets and is therefore, under pressure to evaluate efficiency vis-à-vis quality of services offered (Nitecki 1996:181). According to Wawire and Messah (2010:149) this situation of information and resources inflation is likely to continue for years to come. Just as the university is required to demonstrate accountability the library as part of the university systems and departments needs to also demonstrate accountability (Weiner 2005:432; Research Information Network 2010:9; Wawire & Messah 2010:153).

For many years academic libraries have described quality in terms of the library collections, library holdings and by use of users' statistics (Nitecki 1996:181; Tuomi 2001; Somaratna & Peiris 2011:1) and this is also the situation in Kenya. This sort of statistics do not give any indication of whether the users' needs were met thus calling for better methods of measuring quality. Measuring service quality of an academic library in terms of its collection also cannot offer goals that are attainable for addressing the users' information needs and demands (Yu et al 2008:512). Academic libraries are now more than ever challenged with the task to identify better and sustainable methods to evaluate quality (Nitecki 1996:181). This argument is well articulated by Kyrillidou (2002:43):

Libraries are social institutions, being part of the social capital available to a community [institution]. As such their value needs to be articulated in relation to the value they provide to the user, for the user and by the user.

Besides it being the practice of libraries for many years to describe quality in ways mentioned above such as collections and the size of the library, academic libraries in Kenya have continued to put a lot of emphasis on this kind of measurement because these are some of the requirements stipulated by the Commission of Higher Education (CHE). As earlier mentioned in the introduction and background in Chapter 1, the CHE is a body in Kenya that accredits universities and has identified standards that serve as an evaluation tool for academic library services and facilities. The essence of the standards is to have academic libraries maintain a certain level of quality. These standards which have been compiled are based on a number of established documents on quality such as, "Library Quality Assurance and self-audit" from the University of Witwatersrand,

Johannesburg” (Commission for Higher Education 2007:4) which look into different aspects of the library e.g. physical facility, information resources among others. One of the guidelines, for example, on information resources proposes that the libraries should have:

Minimum collection of 60 titles per programme or 5 titles per unit,
Minimum collection of 5 (five) core journals titles per academic programme...
(Commission for Higher Education, 2007).

The Aga Khan University Library like many libraries has made an attempt to evaluate library services through borrowing statistics, number of users visiting the library and sporadic surveys through the use of questionnaires/score cards. As earlier mentioned quality of libraries expressed in terms of a library collection is no longer adequate. All the factors mentioned earlier greatly affect libraries and the AKU Library should therefore more than ever demonstrate value provided. Though the kind of data collected by the AKU library may provide some level of valuable information it does not provide for improvement of service in a systematic way. Shi and Levy (2005:268) clearly express this argument as follows:

Empirical evidence shows that massive quantities of data alone do not provide standards to measure service quality nor do raw data predict library user satisfaction.

There is therefore a need to collect data in a systematic manner through the use of well-designed tools and subsequently analyse the data. As libraries continue to embrace the need for evaluating service quality in a systematic manner, academic libraries in Kenya need to embrace and apply service quality evaluation tools such as SERVQUAL and LibQUAL among others.

2.5 User based service quality assessment tools

With the complexity of defining quality and more so of service quality, it would be expected to make the issue of assessing service quality even more complex. According to Parasuraman, Zaitham and Berry (1988:17) service quality is “viewed as the degree and

direction of discrepancy between customer perception and expectation. Brysland and Curry (2001:391), having looked at various definitions concluded that service quality is something intangible that is provided in such a way that the customers' needs are met therefore resulting in customer satisfaction. Assessing the quality of services is therefore a complex domain due to the intangible nature of a service. A study by Lincoln (2002:15) clearly explains the complexity of service by attempting to bring out different meanings. In her paper she articulates this complexity as follows: Service is not performed but is a performance. Service is not dispensed but enacted. Service between the provider and the recipient is an intricate process where the nature of the service may change due to eternal or external factors and also the behaviour of the recipient of the service has changed and may continue to change.

All these dimensions have made the conceptualisation and also the measurement of service quality very elusive (Carman 1990:33). Assessing the quality of services and specifically library services has therefore over the years been a major area of concern leading to a lot of research in various sectors and has subsequently gained significant momentum (Ladhari 2008:65; Seth, Deshmukh & Vrat 2005:913). This has led to the development of various service quality assessment tools such as SERVQUAL, LibQUAL+ among others.

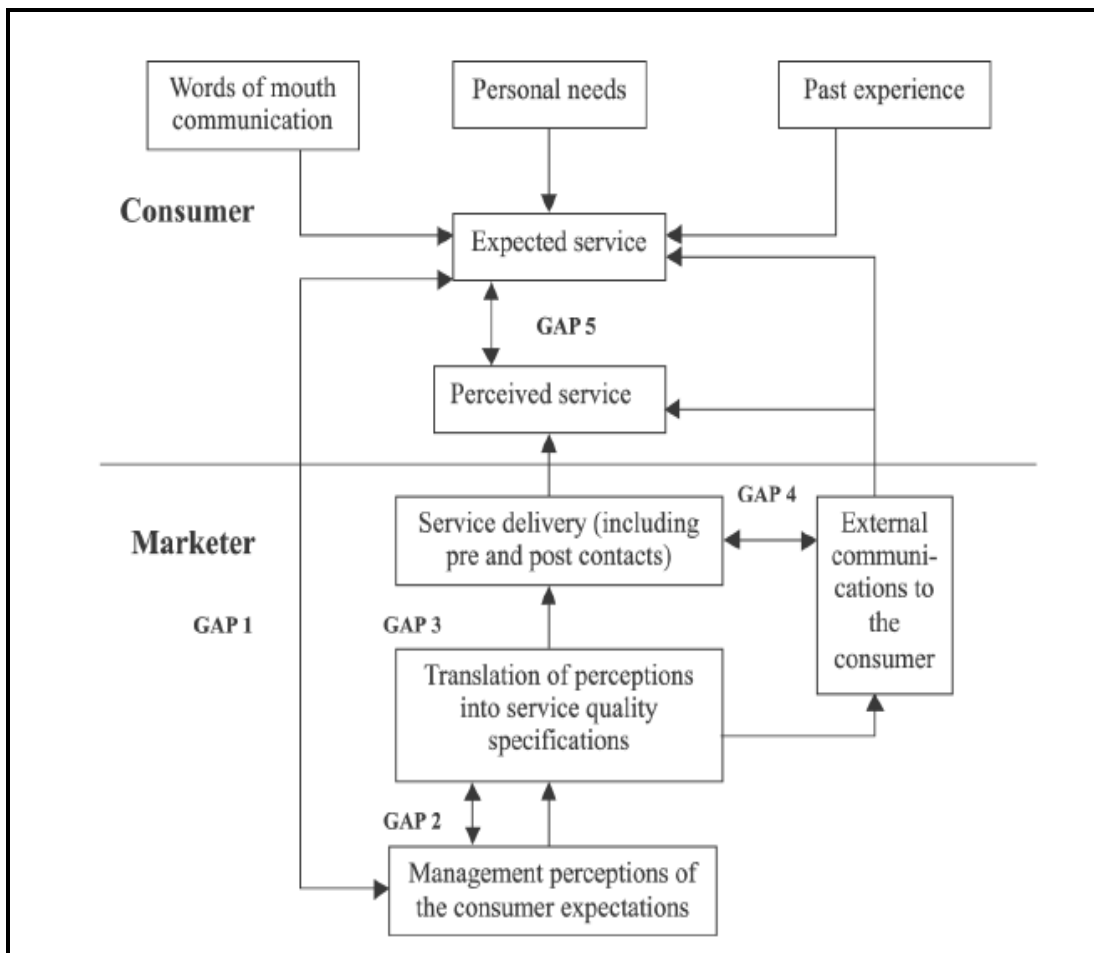
Though there are many assessment tools this chapter will only provide a review of the two mentioned earlier namely SERVQUAL and LibQUAL+TM. Subsequently this study will collect data using SERVQUAL; a widely used tool in various service sectors that has been researched extensively for validity (Crossno et al 2001:170; O'neill, Wright & Fitz 2001:405; Derfert-Wolf, Gorski & Marcinek 2005: 4; Shi & Levy 2005:268; Yu et al 2008:516; Shoeb & Ahmed 2009:194).

2.5.1 SERVQUAL

SERVQUAL is a measurement tool that was developed to measure users' expectations and perceptions against specified quality dimensions (Parasuraman, Zaitham & Berry 1985; Parasuraman, Zaitham & Berry 1988). This tool was developed based on the gap

theory as illustrated in Figure 4 below whereby high quality service is achieved by closing the gap between users' expectations and perceptions. It was derived from the notion that there must be a balance between expectations and perceptions of the users in order to deliver high quality services (Tuomi 2001). The SERVQUAL instrument is therefore based on the basic assumption that if a negative score is obtained this would mean that the performance is below expectation, translating into a low service quality perception. If a positive score is obtained this would then mean that the performance exceeds expectation, translating into high service quality (Robinson 1999).

Figure 4. Gap theory



Source: Parasuraman, Zaitham and Berry (1985:44)

Since it was first proposed in 1985 by Parasuraman, Zaitham and Berry, SERVQUAL was later developed and revised in 1988 following empirical tests by the aforementioned

authors (Lee, Lee & Yoo, 2004:218). The initial SERVQUAL consisted of ten dimensions of service quality namely: (1) Reliability (2) Responsiveness (3) Competence (4) Credibility (5) Access (6) Courtesy (7) Security (8) Communication (9) Understanding the customer and (10) Tangibles. It was later refined to the final 22-item scale by reducing the ten dimensions to five, namely (1) Tangibles (2) Reliability (3) Responsiveness (4) Assurance and (5) Empathy (Shoeb 2009:2; Jayasundara 2011:39). The developers argued that the items retained are common to service organisations regardless of the service offered. Figure 2 under section 2.2.1 illustrates the development and revision of the service quality variables dimensions. According to Lee, Lee and Yoo, (2004:218) an empirical study based on five service companies was carried out and SERVQUAL was once again revised as follows:

- i. First, since the “should” terminology in the original version might contribute to unrealistically high expectation scores, a slightly different wording was adopted. The revised wording focused on what customers would expect from companies delivering excellent services. To illustrate, the statement: Telephone companies should keep their records accurately.’ was modified to the statement: Excellent telephone companies will insist on error-free records.
- ii. Second, the negatively worded items in the original version were all changed to a positive format.
- iii. Third, two new items were substituted for two original items to more fully capture the dimensions and to incorporate suggestions from managers.

Source: Lee, Lee & Yoo, 2004:218

In addition to the above mentioned modification of SERVQUAL it is important to note that the developers of SERVQUAL also recommended rewording of items to the context in which it is being applied and especially whereby a single service is being investigated (Parasuraman, Zaitham & Berry 1988:19). This recommendation was applied in a study done in Finland by Tuomi (2001:10) whereby the question from tangible dimensions on employees’ neatness was removed. This was because it was considered by library staff

and researchers as not being important as it concentrated on factors that they termed superficial.

From the aforementioned discussion it is evident that the expectation and perception of the users are two critical concepts in a service. In addition, ensuring there is no gap between the two translates into quality services and this formed the basis of SERVQUAL. As earlier explained, in chapter 1 under the sub-section *conceptual setting* the term “expectations” is defined as “the desires or wants of the customer, what the service provider should offer” (Robinson, 1999:27) while perceptions is related to how well the library provides services vis-à-vis the users’ expectations about how the services should be (Tuomi 2001:4).

Various studies have however shown that measuring quality is complex and very difficult and this may be due to the diverse definitions of service quality. It can be argued that this diversity and variations in the definitions of quality and more so the definitions of service quality are responsible for criticism of the SERVQUAL tool. Though SERVQUAL may have its weaknesses, its major strength is that it is an instrument that has been statistically tried and found to be valid. The reliability and validity of SERVQUAL has been shown in the study by Parasuraman, Zaitham and Berry (1988:24) which discussed the development of the instrument and showed consistently high reliabilities “across all four samples”. The reliability of the tool was shown by the abovementioned study through the use of various statistical methods such as total scale reliability of linear combination as well as pair wise correlation among the five factors. The study showed the total-scale reliability of linear combination in each of the four instances as being close to 0.9 and further verification of its reliability through pair wise correlation among the five factors found the average was .35 following oblique rotation.

Due to its generic nature, it is recommended that SERVQUAL should be used on a regular basis for comparative purposes (Shahin [s.a]; Brysland & Curry 2001:323). This means that the SERVQUAL instrument should be administered repeatedly in order to ascertain the true picture of service quality. Studies have shown that the expectation and

perceptions of users of a service may change following long use of the service. It is also necessary to use this tool on a regular basis because the level of the services provided may change and the user expectations may also change. Peters (1999:6) observes that “when expectations are regularly exceeded, a new expectation benchmark is set”. Another example of users’ needs changing over time is observed in the study by Carman’s (1990:49) which measured students’ expectations at the beginning of the school term and recorded the perceptions of the students five weeks later. He found that the students’ assessment of quality was different five weeks later because expectation changes with familiarity.

This observation can further be explained by an example of a document delivery service. For example, if a user requests an article and the turnaround time for document delivery is three days, but the user receives the article in two days, he would be satisfied with the service. This would be because the service provided exceeded his expectation. But if the users continue to receive articles within two days, after many requests the users will eventually come to expect it because the users’ expectations have now changed and the expectation benchmark is higher. This illustrates the complexity of defining service quality and also measuring service quality.

On the contrary, Finn (2000) critiques the use of the gap model and the recommendation to repeat the measurement. He argues that repeated use of a service by an individual would diminish the gap between expectation and perceived performance. This observation may occur in a library set up whereby a user may be happy with the initial encounter of the library but may not be equally happy on subsequent visits. The users’ expectations may have been raised by the first visit resulting in an altered perception of performance of the service. Since the user now has “a better idea of what to expect during the second visit, large gaps of disconfirmation are less likely to exist.” This scenario may be as a result of the learning and experience gained by the users as they continue to use the library services.

Nevertheless, SERVQUAL has been recommended as an instrument which would assist decision makers in directing energies to the right areas in an attempt to improve the services. Data from a survey using SERVQUAL can also suggest priority areas for training staff and for solving problems which may be arising from staff assumptions of what users like or identify services offered in a manner that does not meet users' needs (Nitecki 1996:185). Use of an instrument such as SERVQUAL can also be justified because the most important aspect of quality service is identifying the expectations of the users (Bryceland & Curry 2001:393).

Figure 5. Benefits of applying SERVQUAL

1.	Management is able to get an indication of the library's performance from a customer's point of view
2.	By identifying what customers consider as most important through the various dimensions, the library is therefore able to prioritise users' needs
3.	The management can set performance standards and objectives from the SERVQUAL findings
4.	The existence of gaps identified helps the library to identify areas that need focus to direct energies and resources

Source: O'Neill (2005:406)

2.5.2 LibQUAL+™

LibQUAL+ was conceptually derived from SERVQUAL and has a number of items similar to those in SERVQUAL for measuring service quality. LibQUAL+ is a service quality assessment tool that was developed in 1998 by the Association of Research Libraries (ARL). It was developed through a partnership between ARL and the Texas A&M University (TAMU) (Cook, Heath & Thompson 2003: 39). The initial pilot project using LibQUAL+ was conducted in 2000 with subsequent studies to explore the tool

further in 2001 and 2002. It is a web-based tool with 22 questions under 4 dimensions. Each item within the dimensions is measured on a “nine-point scale for minimum and desired expectations and current perception” (Cook, Heath & Thompson 2003: 40). It is web-based tool in the sense that participants access the survey through a Unified Resource Locator (URL) and the responses from the participants are entered into a central database that is in USA where it is analysed and sent back (Moon 2007:73).

The LibQUAL tool however revised some of the dimensions found in SERVQUAL and also added new dimensions. The dimensions assurance, empathy and reliability found in SERVQUAL were condensed into the term “Affect of service”. Reliability as a dimension was still maintained in the LibQUAL tool and three (3) new dimensions were identified namely: Access to information, library as a place and self-reliance (Thompson, Cook & Kyrillidou 2006:52; Falcone & Rivera 2005:98). The four (4) dimensions aforementioned can be explained as follows:

- i. Access to information: refers to the ability to provide a comprehensive collection at the required time. It refers to the extent to which the collection is adequate and extent users’ access to information in a timely manner and in appropriate media.
- ii. The effect of service: this encompasses empathy, accessibility and personal competence.
- iii. Library as a place: refers to the ability to provide adequate library space to users. It is the extent to which the library space is adequate for study, discussion and all space requirements for different user groups and needs.
- iv. Self-reliance or personal control: refers to the ability to empower users to independently seek information. It is the extent to which users can control their own information through navigation and information seeking (Awan, Azam & Asif 2008:54; Cook et al 2003:29; Thompson, Kyrillidou and Cook 2008:2)

Like its progenitor SERVQUAL, LibQUAL is based on the gap model. It provides the following three ratings for each of the items:

- i. minimum acceptable level of service,
- ii. desired level of service and,

iii. the perceived level of service.

The gap between the expectations of service; desired, perceived and minimum, are calculated to determine service quality (Roszkowski, Baky & Jones 2005:426). The critical gap in this case is the difference between desired and perceived expectations of service as an indicator of user satisfaction (Roszkowski, Baky & Jones 2005: 427).

2.6 Library users' perceptions and expectations

Various studies have been carried out in different parts of the world to evaluate service quality in the library environment using the five critical dimensions: tangibles, reliability, responsiveness, assurance and empathy. The various studies discussed below evaluated service quality by using the SERVQUAL assessment tool.

The one case study by Nitecki (1996:182) using SERVQUAL shows consistency in what users consider important when evaluating service. In this study, tangibles were found least important while reliability were perceived to be most important. This study also shows that in order to increase the service quality there was a need to improve on reliability and responsiveness (Nitecki 1996:187).

A study by Tuomi (2001:10) also found tangibles as having the biggest problems when it comes to quality. The survey suggests this may be an indicator of the library having not invested in physical facilities, equipment etc. Items on reliability were found to have the best quality dimensions.

A study by Sahu (2007:242) shows that users of the library were satisfied with all aspects of service quality apart from communication and responsiveness. It is important to note that this study shows a significant difference in how students and faculty perceive quality. This brings the aspect of stratifying the study population into user categories such as faculty and students in order to compare the differences. This would assist in coming up with results and recommendations that suit all user groups.

A study by Awan, Azam and Asif (2008:61) to investigate the service quality of university libraries in Lahore, Pakistan found that the dimensions of service quality that have the strongest relation with users' overall satisfaction are empathy and reliability. The study also found that despite the fact that literary material is considered a library's main activity, physical facilities are significant in determining user satisfaction. A survey of ten NHS libraries in UK however found physical appearance to be the least important dimension (Martin 2003:20). In this survey the ranking of the dimensions was: acquisition of appropriate resources and equipment 24%; libraries ability to perform service accurately 23%; library's willingness to help 23%; library's staff knowledge and ability to convey trust and confidence and the lowest ranking being library physical facility 11%.

A study by Nagata et al (2004) that evaluate the dimensions that determine service quality from the users' point of view using SERVQUAL found that the highest total mean scores for desired expectations were "availability of required information," "providing services as promised" and library staff with the knowledge to answer users questions". These were the findings across the selected universities in England, Finland and Japan. It may be argued that these findings from Nagata and others' study are from libraries in developed countries and may not be applicable in the developing countries. However, similar findings were found in a study in Bangladesh. The study by Ahmed and Shoeb (2009) aimed at measuring service quality of a public university library in Bangladesh using SERVQUAL. The findings of this study were consistent with those of Nagata et al (2004) whereby the largest gaps were related to library collection and items related to staff (Ahmed & Shoeb 2009:30).

Various studies have shown similar findings as earlier mentioned while other studies with contrary findings. Nevertheless, most studies show reliability as being the dimension that is considered the most important by users when evaluating the quality of library services (Shoeb & Ahmed 2009:195).

2.7 Challenges of measuring service quality

Though there has been extensive research carried out in the area of service quality, similarly there has been a lot of critique and arguments levelled against the conceptualisation of service quality as well as how to measure service quality. Tools such as SERVQUAL and LibQUAL are based on the gap model whereby service quality is conceptualised as the difference between perception and expectation. These two terms: perception and expectation require better understanding.

Use of expectation and perception to measure service quality has been criticised and argued to be inadequate. Palmer and O'Neill (2003:257) for example argue that user behaviour is very complex and users may make a judgement based on other factors such as prior experience, psychological issues among others, and this may influence the perception or expectation of the service in question. The authors also argue that perception of service may change with time as a user continues to use the particular service.

It is also known that the first year students may be influenced by prior experience with another library and there is also the possibility of having users with no prior exposure to library services. On the other hand there is the probability for those who have used the library service over time to change their perception and expectation (Palmer & O'Neill 2003:258). All these challenges and dimensions will however be factored through appropriate sampling. The issue of perception changing with time provides room for further research using the same tool. The researcher proposes replication of the study in the same setting to allow for the comparison of findings.

2.8 The Aga Khan University Library

As mentioned in Chapter 1, section 1.1.2, the Aga Khan University, Kenya is located in Nairobi the capital city of Kenya with two faculties in nursing and medical education. The success of any academic institution depends on its ability to provide and maintain quality programs and support. Libraries in an academic environment are actively engaged in providing services that support the university's mission and vision i.e. teaching and research needs of the faculty and students.

Like any other library, the Aga Khan University library which has different categories of users, namely, nursing faculty, nursing students, medical students, medical faculty, and staff of the Aga Khan University and Aga Khan University hospital is met with the challenge of ensuring service quality is provided to the different user groups. Nevertheless the library is committed to the mission of supporting the functions of the university to realize quality education and health services. Towards this goal, the library acquires and makes available current resources in all formats to the users. The library has a rich collection in the health sciences and complements its collection by exploiting electronic resources. To facilitate access to the electronic resources there is a resource centre in the library which has been furnished with computers and is freely available to users. The library offers users a wide range of services such as lending, reservation, Internet, document delivery, multimedia, photocopying and printing to cater for the information needs of its users.

2.8.1 Vision statement

The vision of the Aga Khan University Library is to be a regional centre of excellence in information resources for the education of multidisciplinary healthcare teams.

2.8.2 Mission statement

The mission of the Aga Khan University is to support the teaching, learning and research programmes of the University by selecting, acquiring and organizing relevant and up-to-date information resources and ensuring efficient and effective dissemination to all library patrons using state of the art technologies (Aga Khan University Library 2010:4).

2.8.3 Aga Khan University Library Services

The library offers users a wide range of services such as lending, reservation, Internet, online resources, document delivery, multimedia, photocopying and printing. The users are able to access these services within the library opening hours: 7:30 am – 8:00 pm during the week and 8:30 am – 5:30 pm on Saturdays. The library remains closed on

Sundays and public holidays. Services such as Internet and online resources are however not restricted to the opening hours of the library as they are accessible from any computer within the institution (Aga Khan University Library 2012:1).

Registered library members are allowed to use the library services as per stipulated library rules and regulations. For example, the borrowing period depends on the user category; students and staff may borrow two (3) books at a time for a period of fourteen (14) days while faculty may borrow up to ten (10) books for a period of 1 month. The loan period for faculty can however be extended to a semester upon request. All loans are renewable once, subject to demand. Overdue charges are levied on books not returned on time. The current charges as at the year 2013 are Kshs. 50 per book per day for normal borrowing and 100/- per day per book for books on high demand (Aga Khan University Library 2012:9)

Registered library users are able to use the computers in the library which have access to the internet. The library has also made available wireless internet access and users are therefore able to use personal laptops to access the internet. Access to the internet is of great importance as the library provides its users access to various online resources to compliment the print collection.

The library provides facilities for photocopying and printing. These services are offered at a cost. Users are required to pre-pay for the services and they are allocated a PIN number against the payment. This enables them to personally operate the photocopier. To ensure proper usage of the equipment users are inducted and supported on the basic functionality of the photocopier/printer

The library makes an effort of creating awareness of its existing services through the use of various marketing strategies and tools. A regular newsletter is produced by the library which acts as a marketing tool to inform users of any new developments in the library. Others tools used for marketing include the website and the use of emails.

2.9 Conclusion

The review of the relevant literature has shown that Total Quality Management can be applied in the evaluation of service orientated organisations such as libraries. Though evaluating of quality in libraries is not a new concept, the most prevalent approaches have been the traditional measures such as library collection, borrowing statistics and number of users. These traditional measures do not however provide meaningful results and can be termed as obsolete. TQM can therefore provide the right approach in evaluating service quality in libraries as its philosophy lays emphasis on the need to provide customer oriented services. Customer oriented services can be provided by ensuring that the desired service expectations and actual service performance are clearly understood and there is minimal gap between the two attributes. These would translate to customer satisfaction.

From the various studies mentioned in the literature review it is evident that due to the intangible nature of service, the conceptualisation and also measurement of service quality can be challenging. Nevertheless, a lot of research has been carried out leading to the development of user based service quality assessment tools; one such tool being SERVQUAL. This objective tool which is embedded on the gap model, measures the difference between the users' expectation and perception of the service. In order to improve service quality and ensure customer satisfaction, libraries should ensure relatively marginal gap between user expectation and user perception.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Method is a word coined of two Greek elements: meth and odos. The meth is an element meaning “after.” Odos means “way”. A method is therefore a following after the way that someone found to be effective in solving a problem of reaching an objective in getting a job done. (Leedy 1993:137)

The term methodology contains the word “-ology” which is a Greek word meaning “the study of”. Methodology hence means “the study of a particular method, or methods, for reaching a desired end” (Leedy 1993:137). According to Rajasekar, Philominathan and Chinnathambi (2006) research is the search for information on a particular topic that is new and useful through a systematic and logical approach. The authors further expound that research methodology encompasses the procedures and work plan applied in order to gain knowledge. According to Kothari (2004) the approach which is systematic involves generalisation as well as formulation of theories.

Since the aim of research is to generate knowledge, Kothari (2004) expresses this as a “voyage of discovery” necessitated by inquisitiveness thus leading one to “move from the known to the unknown”. Kothari (2004) explains this argument by identifying four broad objectives of research as follows:

- (i) To explore or formulate a phenomenon with an aim of gaining insight
- (ii) To describe a situation or phenomenon
- (iii) To diagnosis something by reviewing why it occurs
- (iv) To test hypothesis of relationship between variables.

When carrying out research the methodology is thereby dictated by the research problem and the nature of the data (Leedy 1993:139). Hence in order to reach the desired end the researcher should take an empirical approach by accumulating verified facts in order to generate knowledge that is scientific in nature by adopting either the quantitative or

qualitative paradigm which are the recognised approaches to research (De Vos et al 2004:79).

This chapter presents the methodology used for the study i.e. the research approach or plan of action that links the methods of the research to the outcome (Creswell 2003:5). This is in the form of identifying and discussing: the research approach, the research design, research setting, population, sample and sampling, data collection instrument and procedure and data analysis.

3.2 Research approach

A descriptive non experimental quantitative approach was used in this study. According to Bless and Higson-Smith (2000:37) a quantitative approach compares different variables and relies on measurement. As aforementioned this quantitative approach is descriptive in nature for the reason that the study intended to describe a phenomenon.

According to Babbie and Mouton (2001:49) the quantitative approach has been used in the social sciences field dating back to the 19th century. The approach used in research is determined by various factors such as the philosophical assumption, research design, sampling techniques, methods of data collection and data analysis (Creswell 2009:17; Babbie & Mouton 2001:49). These factors are illustrated in the table below as adopted from Creswell (2009:17)

Table 5. Factors in quantitative approach

Tend to or Typically....	Quantitative Approaches
Use these philosophical assumptions	→ post-positivist knowledge claims
Employ these strategies of inquiries	→ surveys and experiments
Use these practices of research as the researcher	→ test or verifies theories, identifies variables to study, relates variables in questions, observe and measures information numerically, uses unbiased approaches, employs statistical procedures

Source: Creswell (2009:17)

Since a quantitative approach uses measurements as well as scales to compare or review variables, this study uses a Likert scale to describe the variables as earlier indicated in Chapter 1, page 20. According to Bless and Higson-Smith (2000:38) measurements or numbers are interpreted to give an exact meaning of a situation or population. De Vos (2002:81) explains that a quantitative approach enables one to obtain data in a systematic and standardised manner. This is made possible by the use of standardised data collection instruments such as a structured questionnaire.

The quantitative approach has various advantages such as the interpretation of numbers in different settings and secondly, the researcher is able to analyse data in a descriptive manner that is simple to understand. According to Creswell (2003:7) a quantitative approach provides an objective reality of what is in existence. Through this approach the researcher of this study measured the quality of library services based on the satisfaction of users with these services and as expressed by and based on the users' expectations and perceptions. As explained by Babbie and Mouton (2001:49) the quantitative approach was deemed appropriate by the researcher due to the notion that assigning numbers or measurements to the attributes will provide an exact indication of the situation being studied. With the use of a structured questionnaire that will be explained later in section

3.5, this approach has an added advantage of ensuring the responses are measured in way that is standard. This was deemed appropriate for this study as the statistical data from a valid assessment instrument should yield valid and objective results.

3.3 Research design

Bless and Higson-Smith (2000:63) define the research design as “a specification of the most adequate operations to be performed in order to test a specific hypothesis [research questions] under given conditions.” Thus a quantitative approach as earlier explained allowed the researcher to carry out a survey research.

According to Creswell (2009:146) the survey research uses a design that applies a format or layout that is standard and is mainly used in studies where the population under study consists of individual people (Babbie & Mouton 2001:232) The survey design is arguably the most commonly used design in social sciences and this is due to various factors such as technological advancement vis-à-vis computers thus easing the analysis of data as well as making them suitable for the purpose of descriptive, explanatory or exploratory research (Babbie & Mouton 2001:230). As earlier mentioned in the section on research approach, the quantitative approach allows the researcher to obtain data in a systematic manner. Therefore in line with the quantitative approach the survey design was found appropriate due to its various advantages such as quick turnaround, being economical and its ability to allow the use of self-administered structured questionnaires (Creswell 2009:146).

A survey enables the researcher to use structured questionnaires to yield statistical data for analysis while aiming to generalise from a sample of the population (Balnaves & Caputi 2001:76; Creswell 2003:14). To expound these definitions and descriptions of the survey design, Creswell (2009:145) clearly explains that a survey design:

provides a quantitative or numeric description of trends, attitudes or opinions of a population. From sample results, the researcher generalizes or makes claims about the population.

3.3.1 Research questions

The aforementioned quantitative approach and survey design were used to answer the research questions stated in chapter 1, section 1.3.3.

3.4 Population

The population refers to the entire set of people who are the focus of the study (Bless & Higson-Smith 2003:84). According to Babbie and Mouton (2001:174) the study population “is that aggregation of elements from which the sample is actually selected.”

The population of this study was defined as faculty and student members at the Aga Khan University, Faculty of Health Sciences. The inclusion criterion for this study was those nursing and medical faculty members; nursing and medical students who are registered members of the Aga Khan University library. The faculty and students members are those employed and enrolled in the undergraduate and postgraduate programs at the Aga Khan University, Kenya, Faculty of Health Sciences. The Faculty of Health Sciences offers a nursing degree as well as medical degree at undergraduate and postgraduate level respectively. The Bachelors of Nursing degree (BScN) students in the population are enrolled in a four year undergraduate programme that enrolls students who have attained a diploma in Registered Nursing. On the other hand the student population under the medicine degree programme are those enrolled in a four year postgraduate medical education (PGME) programme in a variety of clinical specialties. The postgraduate medical education focus is on 9 disciplines across 8 departments namely surgery, medicine, radiology, paediatric, obstetrics & gynaecology, anaesthesia, pathology and family medicine (Aga Khan University, 2007)

The numbers of registered library members from the Faculty of Health Sciences were as follows: BScN faculty ($n=16$), BScN students ($n= 63$), PGME faculty ($n = 38$), PGME students ($n=63$). The total population in this study therefore was 180 i.e. $N=180$. As earlier explained in Chapter 1, in sampling terminologies the letter n is used to represent

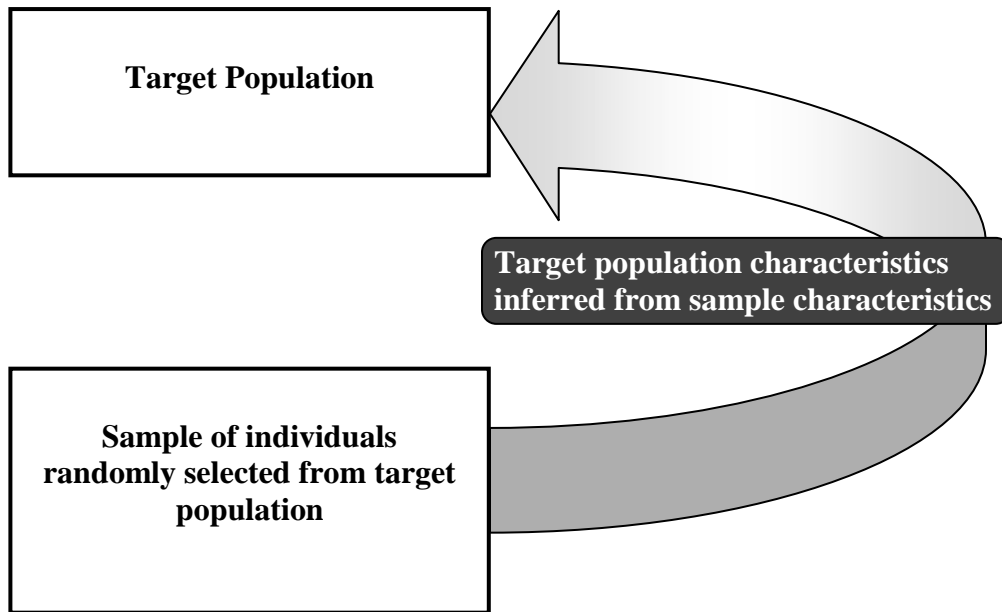
the number of units in a population. The letter n in lowercase represents the number of people in each group while the letter N which is in uppercase depicts the total population (Johnson & Christensen 2012:218; Bless & Higson-Smith 2000:88).

3.4.1 Sample and sampling procedure

To draw conclusions for the research, the researcher should apply inductive reasoning. Inductive reasoning is whereby specific instances or occurrences are used in order to draw a conclusion about the entire events. This is done by drawing from a sample which represents the population (Leedy 1993:110; De Vos 2004:53). A sample is thus defined as “the subset of the whole population which is actually investigated by a researcher and whose characteristics will be generalized to the entire population” (Bless & Higson-Smith 2000:84).

Sampling is a technique or procedure carried out in research in an effort to draw a sample that is considered to be representative of the population and allows generalization of the results (Bless & Higson-Smith 2000:86; Balvanes & Caputi 2001:90; De Vos 2004:198). According to Johnson and Christensen (2012:257) generalization from a sample of the population is a two-step process and this is illustrated in the figure below.

Figure 6. Two-step generalization process



Source: Johnson and Christensen (2012:258).

There are various sampling techniques available in research and in this study, random sampling was used. Random sampling is whereby each individual has an equal probability of being selected and this ensures that the sample is representative of the population (Bless & Higson-Smith 2000:86; De Vos 2002:202; Mugenda & Mugenda 2003:45). According to Creswell (2003:164) random sampling produces a sampling error that is as small as possible and also maximizes on external validity. To ensure that all the user groups were represented, the heterogeneous population was stratified into homogeneous groups. This was achieved by dividing the sampling frame into homogenous subgroups (strata). As earlier mentioned the purpose of sampling is to ensure that the sample drawn is representative of the population. However the sample may produce an error if the population is not homogenous, that is, similar in character. In this study the population can be considered as one that is not homogeneous because there are faculty members as well as students. According to Babbie and Mouton (2001:191) a heterogeneous sample may misrepresent the population and it is therefore prudent to stratify the heterogonous population into identified homogenous subgroups. A stratified sample obtains a “greater degree of representativeness [thus] decreasing the probable

sampling error” (Babbie & Mouton 2001:191). In this study the subgroups identified were medical students, medical faculty members, nursing students, nursing faculty members. Ultimately, the appropriate numbers for each homogeneous subgroup were drawn. This is in line with the suggestion provided by Babbie and Mouton (2001:191) whereby they have explicated that it is important to ensure the appropriate numbers are drawn from each subgroup. The computation of the sample size in each subgroup will be explained below in the section on *sample size*.

3.4.2 Sampling frame

In order to ensure that the sample is representative it is important to use a complete and correct sampling frame. According to Johnson and Christensen (2012:218) a sample frame should be the first thing a researcher should locate as it provides a list of the units in the population. In this study the sample frame was from the AKU library management system. AKU library is automated and this means that the library has installed a computer system that keeps a record of all the registered library users among other functions. The computer system installed at AKU library is known as SIRSI Symphony and it has the ability to generate a list of the registered users through a report generation function (SirsiDynix 2014). The report generation function allows one to specify the user category such as PGME (medical students), faculty (medical and nursing faculty) and BScN (nursing students) and generates a list for each one of them.

3.4.3 Sample Size

According to Bless and Higson-Smith (2001:94), when deciding on the size of the sample, the most suitable criterion to apply is one that to a large extent ensures the sample sufficiently represents the population. The authors add that this is expressed as a probability signifying that there is a 95% chance the sample is well distributed and represents the population.

As earlier explained one way of ensuring this is to obtain a homogenous sample and draw appropriate numbers from the homogeneous sub-groups. Since there is no baseline

estimate of the level of satisfaction amongst users, the researcher hypothesised a satisfaction level of 50%, to give maximum sample size at 95% level of confidence with error margin $\pm 5\%$. As mentioned in the section above on population, the target population is 180 registered faculty and students AKU library users. Hence in order to estimate the size of the sample to be selected for this study in a finite population of 180 registered library users, the researcher applied the following formula:

$$n = [DEFF * Np(1-p)] / [(d^2 / Z^2_{1-\alpha/2} * (N-1) + p*(1-p)]$$

The above formula can be explained as follows:

n	=	sample size
p	=	hypothesised satisfaction level 0%
N	=	finite population
d	=	error margin of $\pm 5\%$
DEFF	=	Design effect =1
Z	=	derivative for 95% level of confidence (1.96%)

A sample size of 123 was calculated using the above formula and in order to determine proportional sample size for each stratum, the percentage each stratum should contribute was calculated as follows:

$$\frac{n}{N} \times 100$$

Where,

n	=	population of the strata
N	=	library users population

The following table shows the population for each stratum, the percentage each stratum should contribute to the sample and the proportional sample size per stratum.

Table 6. Sampling and sample size

STRATA	POPULATION	PERCENTAGE	SAMPLE SIZE
Nursing Faculty	16	9%	11
Nursing Student	63	35%	43
Medical Faculty	38	21%	26
Medical Student	63	35%	43
TOTALS	180	100%	123

The researcher also made an attempt to include users who had used the library services for a long time and those who have not. This was done by including first year students to final year students. The rationale for this was based on Carman's study on "Consumer perceptions of service quality" (1990) that acknowledges that expectations may change over the years as users become familiar with the services. Therefore, including first time users and those who have used the library longer was in an attempt to provide a mean response which may be considered as representative for all users' expectations and perceptions.

3.5 Data collection

A close ended self-administered questionnaire was used as the instrument of choice for data collection. Such a questionnaire, also known as structured questionnaire, provides the respondent with a choice of answers. This questionnaire has an advantage of allowing quantitative analysis of the results in an easy manner (Bless & Higson-Smith 2000:119).

The researcher used an existing questionnaire called SERVQUAL which was developed in 1988 by Parasuraman (Parasuraman 1988:14). SERVQUAL was developed based on the notion that to deliver high quality service there should be no gap between the users' expectation and perception (Tuomi 2001:4). The SERVQUAL instrument is based on the basic assumption that if a negative score is obtained this would mean that the

performance is below expectation, translating into a low service quality perception. If a positive score is obtained this would mean that the performance exceeds expectation, translating into high service quality (Robinson 1999:21).

Though studies have shown the validity and applicability of the original SERVQUAL subsequent studies showed that SERVQUAL does not query the technical dimensions of library services (Gronroos 2001:151; Nagata et al 2004:54; Ahmed 2009:21). These studies argued that the original SERVQUAL questions only evaluate the service process and additional technical dimensions are important because they evaluate outcomes. In view of this the technical attributes were adopted from a study by Ahmed (2009:21) for the reason that the validity of the service items added to the original SERVQUAL was tested.

This study therefore used a modified SERVQUAL instrument with 30 questions in each section i.e. expectation and perception. In addition to the original 5 dimensions i.e. assurance, empathy, reliability, responsiveness and tangibles, two other dimensions namely collection & access and library as a place were added. The technical attributes contained questions on library website/portal, online catalogue, printed material such as brochures and online resources.


3.5.1 Layout of the questionnaire

The SERVQUAL instrument used in this study was divided into 2 sections: one section containing 30 statements regarding the perception of the respondents and the other section containing 30 statements regarding the expectation of the respondents. Each of these statements was measured on a 7 degree Likert scale. A Likert scale is a type of questionnaire that applies intensity questions. Intensity questions are questions that are “used to measure the strength of a respondent’s feeling or attitude on a particular topic” (Air university sampling ... 2002:47). The Likert scale uses an ordinal scale of measurement and has questions in the form of statements which are either favourable or unfavourable and the respondents choose one of the several degrees provided about each

statement. The degree ranges from strong approval to strong disapproval (Air University sampling ... 2002:47). According to De Vos (2002:170) an ordinal scale represents a rank or order in that “an object possesses more of a particular characteristic than another object”.

In this study the intensity questions were used to measure the expectations and perceptions of the respondents by use of the Likert type answer scale. The following is a sample section of the SERVQUAL questionnaire to illustrate the questions and Likert Scale:

Figure 7. Sample of SERVQUAL Questionnaire

		<div style="display: flex; justify-content: space-between; align-items: center;"> Strongly Disagree Strongly agree </div> <div style="text-align: center; margin-top: 5px;">  </div>							CODE
		1	2	3	4	5	6	7	
	Assurance (AS): This assesses the knowledge and courtesy of the library staff and their ability to transmit confidence.								
AS-1	Assuring users of the accuracy and confidentiality of their personal information (AS-1)								
AS-2	Information from library resources meet users course needs (AS-2)								
AS-3	It is easy to make a compliment, complaint or suggestion about condition (AS-3)								
AS-4	Library staff are always courteous (AS-4)								
AS-5	Library staff are knowledgeable to answer users query (AS-5)								

The service quality for each dimension was measured by getting the difference between the perception and the expectation of each unit of the sample drawn from the population. According to Jiang et al (2000:726) and Ladhari (2008:66) this can be measured using the following formula:

$$G = P - E$$

Where G is the perceived quality (gap score)

P is the perception of the service delivered

E is the expectation of the service

In order to ensure that the questionnaire was complete and inclusive in terms of the questions asked, the researcher included demographic questions. This was deemed necessary in view of the assumption that they may affect the perceptions and expectations of the participants. According to Bless & Higson-Smith (2001:116) these type of questions are referred to as factual questions as they provide objective information which may include personal data. Thus the questionnaire included questions on the age, gender, qualification and designation. The questionnaire also included a column for coding for each question to assist with the data entry. The purpose of coding is to convert the data to numerical codes that represent the attributes or variables in order to facilitate the data analysis (Mugenda & Mugenda 2003:116).

3.5.2 Administering the Questionnaire

According to Balvanes and Caputi (2001:84) the administration of the questionnaire is a critical stage of the research as it will determine how well and accurately the participants respond. The authors recommend that it is important to administer a questionnaire that has a good layout and with well formatted questions. The questionnaire should have a brief introduction explaining the purpose and also instructions on how the questions should be answered. De Vos (2002:176) suggest that explaining the purpose of the study may motivate the participants to cooperate and thus accept to participate in the study by responding to the questionnaire.

It is also recommended that once a questionnaire is administered the researcher should endeavour to maximize the number of responses returned. This is referred to as the response rate and is calculated as follows:

$$\frac{\text{Number of people in the sample who participated in the research}}{\text{Total number of people in the sample size}} \times 100$$

According to Johnson and Christensen (2012:219) as much as the researcher should endeavour to achieve a response rate that is high as possible, the commonly accepted response rate is 70% and above.

In this study, the questionnaire was administered via electronic mail. As recommended by Balvanes and Caputi (2001:84) the researcher ensured that the questionnaire had a short introduction explaining the purpose of the research and the general layout of the questionnaire was presentable and easy to answer.

Mailed copies of a questionnaire may however have their advantages and disadvantages. According to Bless and Higson-Smith (2001:109) the main advantage is that the participant is able to respond cautiously and appropriately without feeling the need to be hasty which can be caused by a waiting interviewer. The same authors on the other hand advise that self-administered questionnaire can be affected by low literary rate in developing countries. The researcher however felt that this would not be a challenge as the population consists of faculty and student members in the nursing and medicine discipline and this may be assumed to be a population with a well sufficient level of literacy. Another challenge of administering mailed copies of a questionnaire is the low response rate (Bless & Higson-Smith 2001:109). This may be attributed to factors such as technology failure or the participants' email has changed and they are thus unable to receive the questionnaire. Since emails are programmed to send an automatic reply to the sender when the mail does not reach the recipient, the researcher used such responses from the email to ensure that those who do not receive the questionnaire are sent the same via hand-delivery. In addition, the researcher ensured that follow up and reminders through mail and telephonic requests were used in an attempt to proliferate the response rate (De Vos 2002:177).

3.6 Reliability and validity of the instrument

The principles of reliability and validity are two important considerations in evaluating any type of measuring technique (Bless & Higson-Smith 2000:126; Leedy 1993:40). According to Bless and Higson-Smith (2000:126) reliability is concerned with how consistent the measures are, that is, the instrument should produce “equivalent results for repeated trials”. De Vos (2002: 168) provides synonyms for reliability as “dependability, stability, consistency, predictability, accuracy, reproducibility, repeatability and generalizability”. Validity on the other hand is concerned with what the instrument actually measures as well as how the results are interpreted, that is, “the measurement techniques are actually measuring the things that they are supposed to be measuring. According to Leedy (1993:40) validity refers to the effectiveness and soundness of the instrument. Balnaves and Caputi (2001:89) identify three major kinds of validity as construct validity, internal validity and external validity. The authors define these 3 kinds of validity as follows:

- Construct validity is the extent to which your constructs are successfully operationalized and represent the phenomenon you want to study.
- Internal validity is the extent to which your research design really allows you to draw conclusion about the relationship between the variables.
- External validity is the extent to which your sample is genuinely representative of the population.

Though validity and reliability are different it is important that they are both of high quality to ensure that the instrument is effective (Bless & Higson-Smith 2000:130). In addition reliability and validity demonstrate “the rigour of research process and the trustworthiness of research findings” (Roberts et al 2006:41)

The researcher chose to use SERVQUAL for this study because as mentioned earlier it is an instrument that has been researched extensively for reliability and validity (Crossno et al 2001:170; O’Neill, Wright & Fitz 2001:405; Derfert-Wolf, Gorski & Marcinek 2005: 4; Shi & Levy 2005:268; Yu et al 2008:516; Shoeb & Ahmed 2009:194). Notably during

the development of the SERVQUAL instrument, it was statistically tried. The reliability and validity was shown in the study by Parasuraman, Zeithaml, and Berry (1988:24) which discussed the development of the instrument and showed consistently high reliabilities across the four different samples used. Their study showed the total-scale reliability of linear combination in each of the four instances as being close to 0.9. As explained by Roberts et al (2006:42) this means 90% reliability with a 10% error. According to Roberts et al (2006:42) a reliability of 80% to 90% is recommended for most research purposes.

The aforementioned explanations and definitions demonstrate the importance for a researcher to maximise the reliability and validity of any research. In view of this the researcher ensured the validity of the study by reducing errors that may produce bias from the population. This was done through random sampling of the population in order to draw conclusions that are representative of the population. Another important aspect of validity is to ensure that any threats to validity are dealt with. According to Mugenda & Mugenda (2003:107) threats to external validity, for example, as a result of characteristics of the population, are taken into consideration. In this study the researcher dealt with the threat to external validity by categorising the population into homogenous groups as earlier mentioned in the section on population and sampling. This was with an aim to ensure that the population is “similar on salient characteristics” (Mugenda & Mugenda 2003:107). In addition the researcher provided detailed instructions at the beginning of the questionnaire so as to avoid any misinterpretation and confusion by the respondents and to ensure they answered the questions as expected.

Though SERVQUAL has been researched extensively for reliability and validity in other developing countries there appears to be no research using it in the library setting in Kenya. In view of this the researcher suggests the need to carry out further research in various libraries in Kenya and compare the results. The research also suggests the need for repeated surveys at the Aga Khan University Library with the same instrument in order to assess the reliability and validity.

3.7 Data Analysis and discussion

Data analysis is the process carried out by the researcher once the data has been collected. Bless and Higson-Smith (2000:137) explain that the purpose of a data analysis is to enable the researcher to identify consistent patterns from the data. The authors add that the choice of the data analysis process is determined by the research approach, design and questions to be answered. Though data analysis may be characterised as a demanding and intensive activity, it has however been made less complex by the development and advancement of technology. According to Mugenda and Mugenda (2003:116) the complexity of the process has been eased by the advancement in technology. Through the integration of technology the data was therefore collected and entered in Microsoft Excel and the analysis was carried out by using statistical analysis software known as Statistical Package for Social Science (SPSS) version 15.0.

As explained earlier under the sub-section on the research approach this study followed a quantitative descriptive approach. Descriptive and inferential statistical processes are often used in analysing quantitative data (Bless & Higson-Smith 2001:137). Thus descriptive statistics were the first step in the data analysis. According to Mugenda and Mugenda (2003:117) descriptive statistics are essential as they provide meaningful information or summary of the data collected. In social sciences the summary is provided through the measure of what is termed in statistics as central tendency or measures of central or central location. Central tendency provides a summary of variables studied and this is mainly shown by measuring the mode, mean and medium.

Descriptive statistics were depicted using simple percentages, bar charts, pie charts and frequency tables. The researcher applied univariate analysis in order to examine the characteristics of the 2 main variables: expectations and perceptions. According to De Vos (2001:422) univariate analysis is whereby one variable at a time is examined. This is in order to examine the distribution, central tendency and dispersion; which are basically the “formats for the analysis of univariate data”.

Mugenda and Mugenda (2003:118) clearly articulate the meanings of the above mentioned descriptive measures as follows:

The Mode: the measurement that appears most in a particular variable among a sample of subjects.

The Median: this is the 50th percentile in a group of scores gathered. In other words the median is the point below and above which 50% of the scores fall.

The Mean: this is the most frequently used measure of central tendency.

The mean is the average of a set of scores or measurements. It is calculated by adding up all the scores and dividing the sum by the total number of scores

Frequency: a frequency distribution table shows the distribution of scores in a Sample for a specific variable [or subjects in a given category] i.e. a record of the number of times a score or a response occurs.

Graphic representation: bar charts and pie charts are some examples of graphic representation. This kind of representation enables the reader to easily see the distribution trend.

Percentage: these are important in comparing groups that are different in size. In this study for example, this may be deemed necessary as the subgroups are different in size.

Whilst understanding the significance of data analysis in research, it is important not to undertake the data analysis process as merely a description of measurements and statistics but to also ensure that the data collected is aligned to the research questions. In addition there should be discussion and clear explanations as well as integration of the findings to the theoretical framework vis-a-vis literature review of the study. Furthermore the researcher should also attempt to show how the data can be generalised to the population (Bless & Higson-Smith 2000:140; Mugenda & Mugenda 2003:150; Creswell 2009: 153).

3.8 Ethical considerations

When carrying out research, a researcher should address various ethical issues that arise during the research process. According to Creswell (2003:64) these issues include a clear explanation to the participants on what the research is about so as to understand the purpose of the research as well as their right to participate. The researcher should protect the identity of the participant by ensuring confidentiality. The researcher should also seek permission from the relevant authorities; in the case of institutions so as to be able to carry out the research in the identified setting. The researcher should also exercise a high level of integrity by observing the scientific process and by providing an accurate account of the information.

3.8.1 UNISA research policy

The University of South Africa has a detailed and expounded research policy that is intended to develop the ability of the researcher in carrying out an ethical research (UNISA 2007). The policy which was used to guide this research intends to achieve the following:

- *discourage unethical research practice*
 - *serve as a basis for policymakers and to provide an enabling environment for the practice of ethical research*
 - *provide an additional resource for the teaching and training of students in research*
 - *make ethics an integral part of the planning and methodology of research*
 - *preserve and promote the autonomy, quality, legitimacy and credibility of research*
 - *protect and promote the rights of research participants and honour their trust in researchers and research*
 - *strengthen the research ethics review system in the University where research involves human participants, animals, or other living or genetically modified organisms*
- (UNISA 2007:1).

The UNISA policy provides comprehensive information concerning the rights and responsibilities of researchers such as the integrity required when carrying out a research.

In view of the integrity of the researcher, issues regarding the competency of the researcher are underscored. Other issues include the need to seek permission from the appropriate ethics committee when carrying out a research; the need for complete honesty in the process of research from data generation analysis, publishing of results and acknowledgements; need to ensure that the information is not plagiarised, among others.

In a study such as this one that involves human participants, the policy provides elaborate information regarding the researcher and the participants. Hence the researcher incorporated the following information to guide this study:

- Need for consent from the participants
- The research should not cause any harm to the participants
- Research participants should be fairly selected
- Participants should participate on a voluntary basis and hence be informed of their right not to participate or discontinue at will
- The confidentiality and privacy of the participant should be ensured. Hence the participants should be assured that the information will be safeguarded and no information provided will reveal the identity of the participant. According to the policy, one way of ensuring this is to allow participants to respond anonymously.

3.8.2 Permission from AKU Research committee

The researcher endeavoured to adhere to ethical considerations and more so the UNISA research policy by seeking permission from the Aga Khan University (AKU). This was due to the fact that AKU was the setting for this study and since the institution has a research committee that approves all studies carried out in the AKU setting permission was sort from the said committee. A letter requesting for permission was therefore sent to the relevant department known as Research Support Unit.

3.8.3 Scientific honesty/integrity on researcher's part

The researcher ensured integrity during the research process by ensuring that the required scientific process was observed and the results are reported accurately. The researcher also ensured that the study abides by the University of South Africa (UNISA) research policy as mentioned above. Plagiarism was avoided through the acknowledgement of sources used. As stipulated in the UNISA research guide Harvard referencing style was used throughout the study.

3.8.4 Confidentiality and anonymity

Participants' identification information such as names was omitted from the questionnaire to ensure confidentiality. The information on confidentiality was also indicated on the questionnaire indicating that the information provided will be confidential and would only be used for the study.

3.9 Summary

This chapter presented the methodology used for the study. Based on the quantitative approach to research this chapter reviewed the design used as well as the data collection instrument. The population in the study as well as the sampling procedure were explained in detail. This chapter also attempted to give reasons for the aforementioned approach used and also went further to explain the data analysis method. In summary, the issues addressed in this chapter are very vital because as explained earlier they bring focus to the study by providing in a systematic and logical way the manner in which information or data was gathered in order to gain knowledge.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 Introduction

The purpose of this chapter is to present the results of the study as obtained from the questionnaires. In the study AKU library users' perceptions and expectations of the AKU library service quality are analysed and the gaps between the users' expectations of library services and the users' perceptions of existing AKU library services are identified. This is done by applying statistical techniques using SPSS, statistical computer software. The results of the statistical analysis, determined through the application of an univariate analysis provides descriptive statistics such as frequency tables, measures central tendency and measures of dispersion. Frequency tables generally show numbers and percentages for the categories or variables. Measures of central tendency are used to show the median, mean and mode (Bryman 2004:227). The results will also show measures of dispersion by way of standard deviation. Standard deviation is "essentially the average amount of variation around the mean (Bryman 2004:229). In order to find out if there is any relationship between variables, bivariate analysis will also be applied for inferential statistics. According to Bryman (2004:230) bivariate analysis "is concerned with the analysis of two variables at a time in order to uncover whether the two variables are related. The findings of the study are presented in the form of tables, and graphical representations. In the study therefore the above mentioned statistics are used to analyse the AKU library users' expectation as well as their perception on the quality of AKU library services. The statistics are also used to analyse the demographic factors that may affect the AKU library users' expectation and perception of the quality of AKU library services.

The findings in this chapter are presented according to the research objectives and research questions outlined in Chapter one, section 1.3.2. The descriptive statistics analysed for the study are first presented in an outline of the characteristics of the sample with regards to the demographics included in the study. Thereafter, the analyses of

expectations of service delivery and perceptions of service quality are provided through inferential statistical analysis in order to investigate whether the findings are statistically significant.

4.1.1 Data collection response rate

As indicated in Chapter three, section 3.5 of this study, questionnaires were sent to registered AKU library users. As explained in chapter one, section 1.8.3.2, the heterogeneous population was stratified into homogeneous groups to ensure that all AKU library users were represented. This was done by dividing the sampling frame into homogenous subgroups (strata) i.e. medical students, medical faculty members, nursing students, nursing faculty members. Table 7 shows the number of respondents for each user category that responded to the survey.

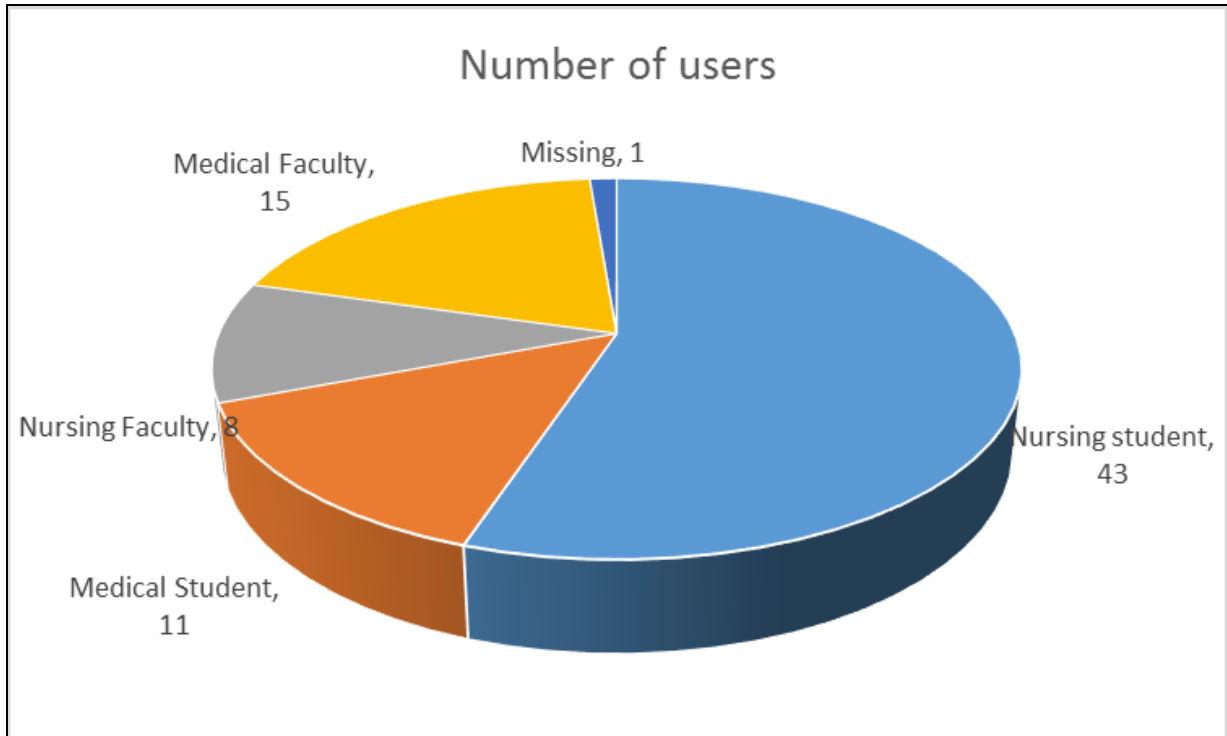
Table 7. Data collection response rate frequency

	Frequency	Percent	Valid Percent	Cumulative Percent
Nursing students	43	55.1	55.8	55.8
Medical Students	11	14.1	14.3	70.1
Nursing Faculty	8	10.3	10.4	80.5
Medical Faculty	15	19.2	19.5	100.0
Total	77	98.7	100.0	
Missing	1	1.3		
Total	78	100.0		

Table 7 shows the response rate frequency for each user category that responded to the survey namely: nursing students, medical students, nursing faculty and medical faculty. The table shows the percentage for each category. From the table it can be seen that although a total of 78 questionnaires were distributed, one of these questionnaires was disregarded as it had incomplete information.

Chart 1 illustrates the data collection response rate by use of a pie chart. The pie chart provides easy presentation of the frequency and also enables one to easily view the number of responses for each user group.

Chart 1. Data collection response rate frequency



A total of 78 of the total 123 participants in the sample size completed and returned the questionnaire. This represents a 63% response rate of the sample size which is considered sufficient in research in ensuring that the results are representative (Baruch 1999:41; Johnson & Owens [s.a]:129; Baruch, & Holtom 2008:1148; Nulty 2008: 308). According to Cummings, Savitz and Konrad (2001:1352) it is important to report the response rate as this can provide an indication on the quality and validity of the research. Their study found that the average response rate being between 52% and 61%. Bryman (2004:136) also attests to this view by indicating 60% -70 % as an acceptable response rate.

4.2 Demographic information

The research includes demographic questions to measure the demographic factors that may affect the perceptions and expectations of the AKU library users. Table 8 provides a frequency distribution of the demographic data. This is for the purpose of organising the raw data in a table format which is simple to understand. Tables and figures are provided to show the results of the various demographic questions namely age, gender, qualification and number of years in the institution.

Table 8. Demographics frequency

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
User category	77	1	4	149	1.94	1.207
Gender	78	1	2	128	1.64	.483
Age	78	1	6	201	2.58	1.508
Highest Academic Qualification	76	1	5	138	1.82	.860
Number Of Years In the Institution	78	1	5	189	2.42	1.190
Valid N (list wise)	75					

Table 8 shows that 77 respondents answered the question that sought to find out the user category; 78 answered the questions on gender, age and number of years in the institution; and 76 respondents answered the question regarding the highest academic qualification.

4.2.1 Gender

Chart 2 shows the results of the gender of the respondents.

Chart 2. Gender of respondents' frequency

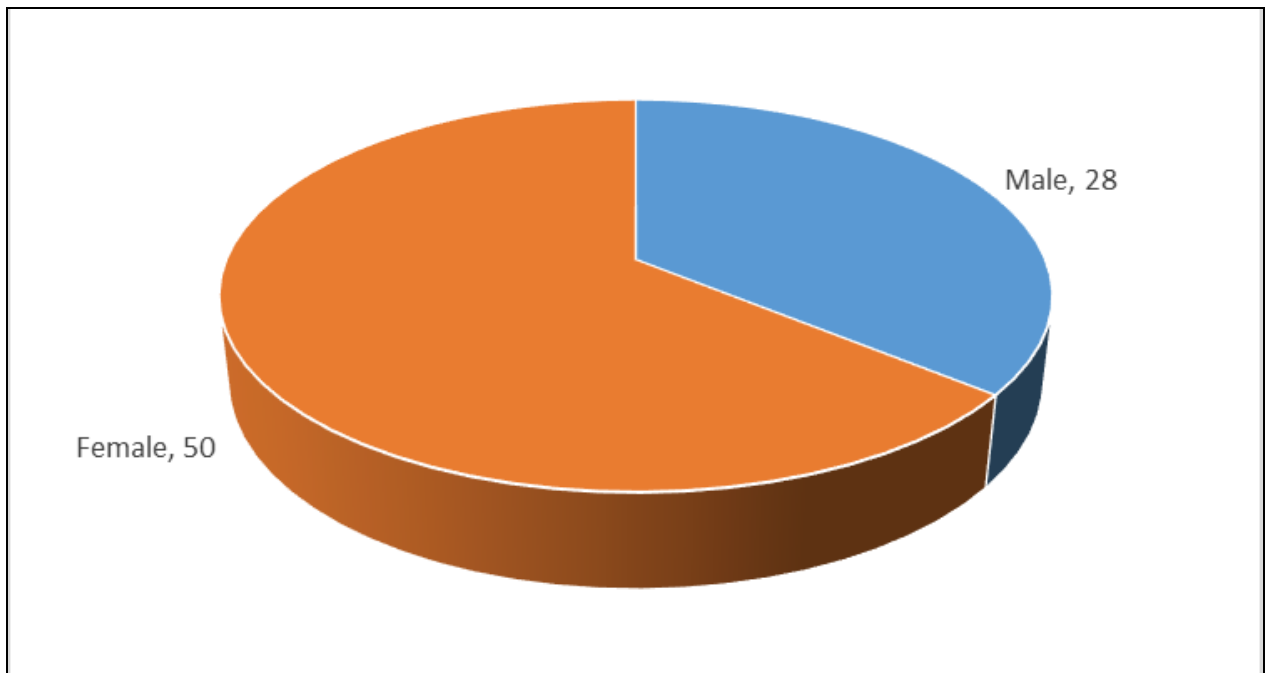


Chart 2 shows that 28 (35.9%) of the respondents were male while 50 (64.1%) were female. Chart 2 illustrates these findings using a pie chart

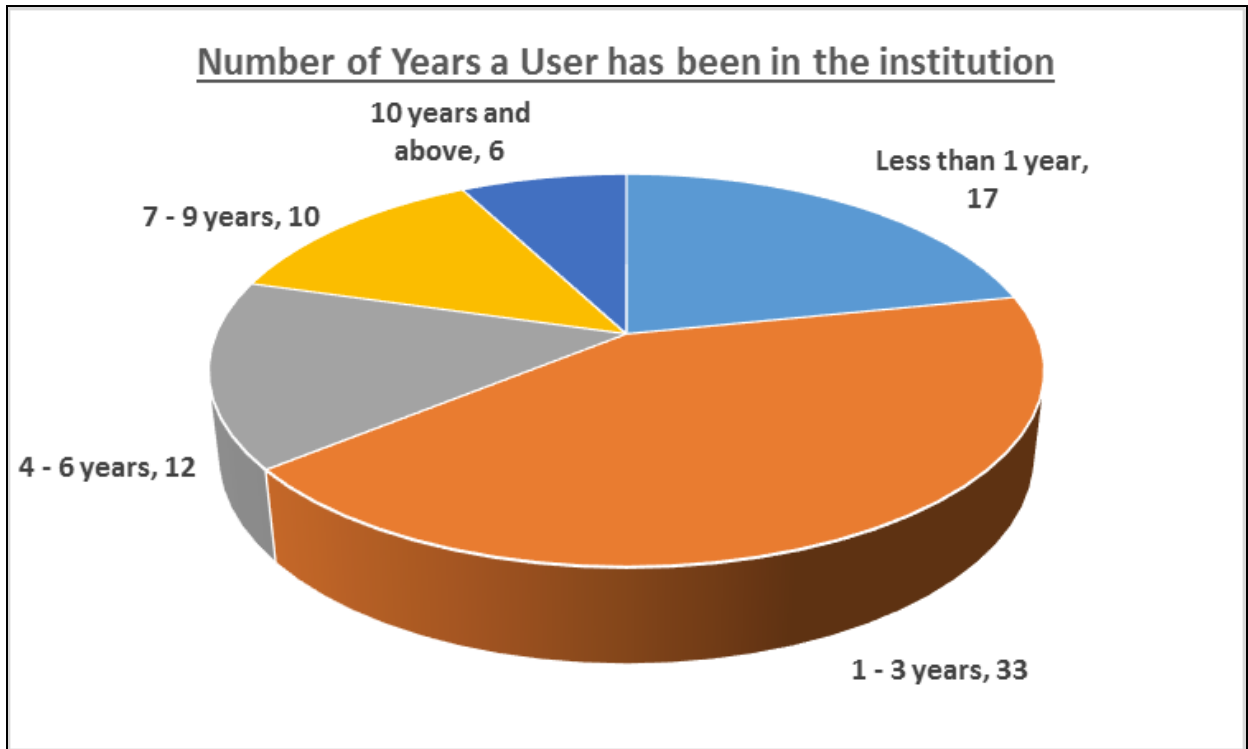
4.2.2 Number of years a user has been in the institution

The study questionnaire sought to find out the number of years the respondents have been in the institution so as to investigate whether the expectations of users may change over the years as a result of the users becoming familiar with the services.

Table 9. Number of years in the institution frequency

		Frequency	Percent
Valid	Less than 1 year	17	21.8
	1 - 3 years	33	42.3
	4 - 6 years	12	15.4
	7 - 9 years	10	12.8
	10 years and above	6	7.7
	Total	78	100.0

Chart 3. Number of years in the institution frequency



Results from the survey indicated that 33(42.7%) have been in the institution between 1-3 years, 17 (21.8%) have been in the institution for less than 1 year, 12 (15.4) have been in the institution between 4-6 years, 10 (12.8) between 7-9 years and 6 (7.7%) have been in the institution for over 10 years. As mentioned in Chapter 1, Section 1.8.3 the question regarding the number of years a user has been in the institution was included in the questionnaire in line with Carman's study on "Consumer perceptions of service quality" (1990) which acknowledges that expectations may change over the years as users become familiar with the services and therefore including first time users and those who have used the library longer may provide response which may be considered as representative for all users' expectations and perceptions.

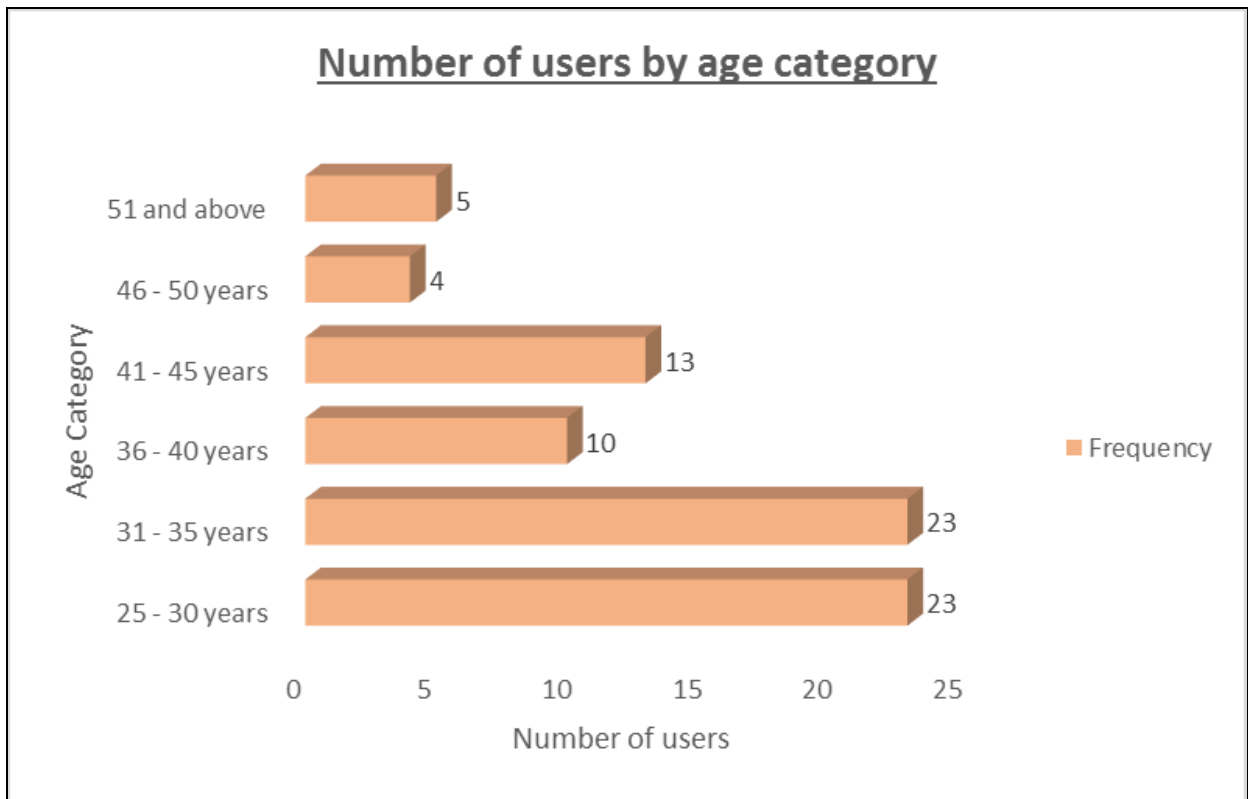
4.2.3 Age of Respondents

The age of the sample respondents is shown in Table 10 and Chart 4.

Table 10. Age of respondents' frequency

	Frequency	Percent
Valid 25 - 30 years	23	29.5
31 - 35 years	23	29.5
36 - 40 years	10	12.8
41 - 45 years	13	16.7
46 - 50 years	4	5.1
51 and above	5	6.4
Total	78	100.0

Chart 4. Age of respondents' frequency



Results from the survey showed that the majority of the respondents were between the age group 25-35: 23 respondents (29.5%) were between the age of 25-30 years, 23 (29.5%), between the age of 31-35 years, 13 (16.7%) between the age of 41-45, 10

(12.8%) between the age of 36-40, 5 (6.4%) being 51 years and over and 4 (5.1%) between the age of 46 -50.

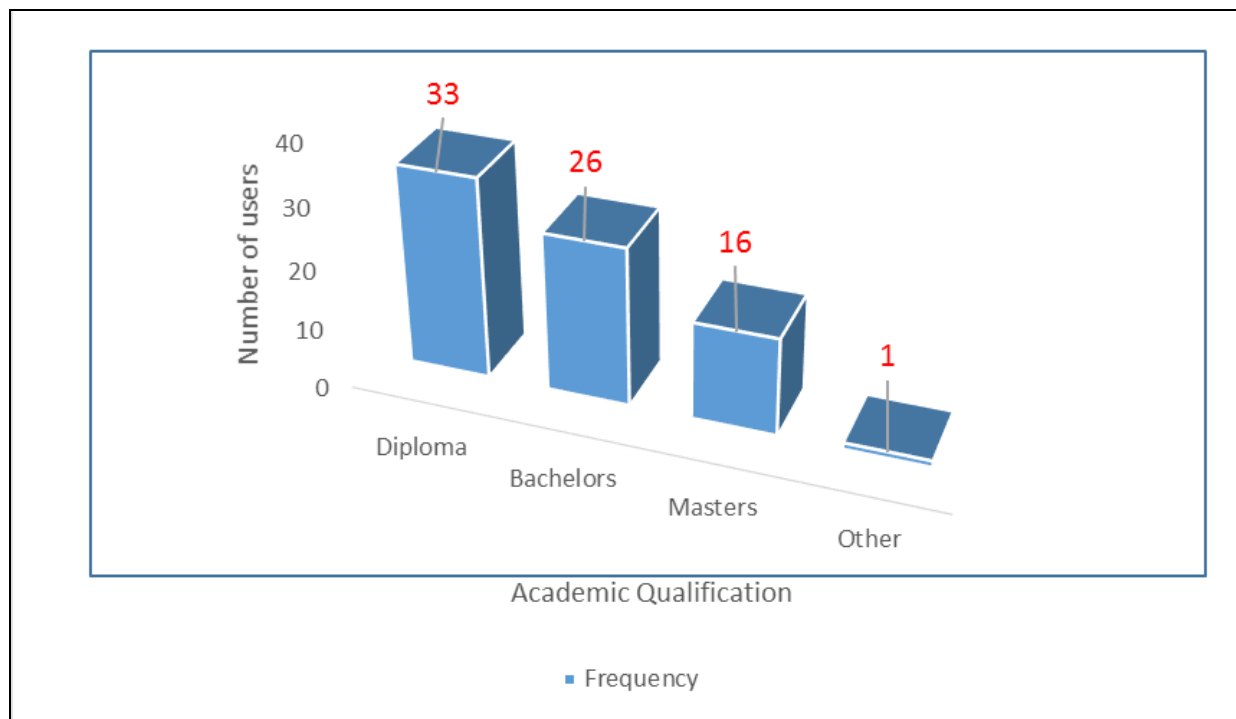
4.2.4 Highest academic qualifications of respondents

The study questionnaire sought to find out the highest academic qualifications of the respondents. Table 11 and Chart 5 provide descriptive statistics on highest academic qualifications of the respondents by showing the frequency and the percentage.

Table 11. Highest academic qualification of respondents

		Frequency	Percent
Valid	Diploma	33	42.3
	Bachelors	26	33.3
	Masters	16	20.5
	Other	1	1.3
	Total	76	97.4
Missing	System	2	2.6
Total		78	100.0

Chart 5. Highest academic qualifications of respondents



In response to the question on the highest academic qualifications the results show 33 (42.3%) have attained a diploma, 26 (33.3%) have a Bachelor's degree, 16 (20.5%) with Master's Degree and 1 (1.3%) indicating a different option from those provided i.e. Fellow of Royal College, 2 (2.6%) of the respondents did not answer the question.

4.3 Frequencies of respondents' expectations and perceptions

It is important to organize the data for the key variables of the study in a way that is easy and simple to understand. According to Bluman (2012:36) "the most convenient method of organizing data is to construct frequency distribution. Table 12 shows the frequencies of the data collected for the respondents' expectations of AKU library services while table 13 shows the frequencies of the data collected for the respondents' perceptions of the quality of AKU library services.

Table 12 below shows descriptive statistics of the respondents' expectations of AKU library services. The descriptive statistics include the mean, median and mode for each service item statement.

Table 12. Frequency distribution of respondents' expectations

	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Assuring users of accuracy and confidentiality of their personal information	78	0	5.87	6.00	7	1.427
Information from library resources meet users' needs	77	1	6.16	7.00	7	1.236
It is easy make a compliment, complaint or suggestion about services	77	1	5.62	6.00	7	1.469
Library staff are always courteous	77	1	5.84	6.00	7	1.433
Library staff are knowledgeable to answer users queries	75	3	5.93	6.00	7	1.473
Convenient access to library collections	78	0	5.94	6.00	7	1.283
Digital or online materials can be accessed from computer	78	0	6.14	7.00	7	1.297
Library online catalogue is easy to understand and navigate	78	0	5.63	6.00	6	1.310
Library website contains necessary information	78	0	5.99	6.00	7	1.419
Physical condition of resources in collection is good	75	3	6.03	6.00	7	1.365
Required resources are available	78	0	5.90	6.00	7	1.244
Resources are delivered timeously	77	1	6.06	6.00	7	1.174
Convenient opening and closing hours	78	0	5.73	6.00	7	1.593
Giving priority to the users interest	77	1	5.84	6.00	7	1.442
Library staff give individual attention to user	77	1	5.90	6.00	7	1.343
Library staff understand the needs of the users	77	1	5.90	6.00	7	1.363
Library Staff deal with users in a considerate manner	77	1	6.05	6.00	7	1.307

The Library is comfortable and is in a good location	78	0	6.01	6.00	7	1.353
Library provides space that enables quiet and calm study	78	0	5.67	6.00	7	1.711
The Library can be depended upon in handling user service problems	78	0	5.91	6.00	7	1.341
Library staff provide services accurately with minimum interruption	78	0	5.88	6.00	6	1.195
Library staff provide services as promised	77	1	6.14	7.00	7	1.232
Library staff provides services in a timely manner	78	0	6.05	6.00	7	1.205
Library staff have willingness to help users	77	1	6.10	7.00	7	1.343
Library staff keep users informed about when services will be performed	78	0	6.00	6.00	7	1.358
Library staff serve promptly to the users	78	0	6.01	6.00	6	1.201
Library staff are always willing to respond to users questions	78	0	6.06	7.00	7	1.399
Equipment in the library is modern and in good condition	77	1	5.74	6.00	7	1.361
Library facilities are visually appealing (such as computer, audio-visual etc.)	78	0	5.56	6.00	7	1.456
Library materials (such as brochures, statements or signs) associated with services are visually appealing	78	0	5.69	6.00	6	1.361

Table 12 shows the most occurring mode for the respondents expectation as 7 with a few rating 6. Since 6 and 7 are the two highest ratings on the questionnaire, this can be interpreted that the respondents consider all the service items as being important and hence the respondents expect that AKU library should possess or provide the services indicated.

Table 13 below shows descriptive statistics of the respondents' perception with regards to the quality of AKU library services. The descriptive statistics include the mean, median and mode for each service item statement.

Table 13. Frequency distribution of respondents' perceptions

	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Assuring users of accuracy and confidentiality of their personal information	77	1	5.75	6.00	6	1.406
Information from library resources meet users' needs	77	1	5.97	6.00	7	1.337
It is easy to make a compliment, complaint or suggestion about services	77	1	5.79	6.00	6	1.218
Library staff are always Courteous	77	1	5.88	6.00	7	1.376
Library staff are knowledgeable to answer users queries	75	3	5.97	6.00	7	1.395
Convenient access to library collections	77	1	5.96	6.00	7	1.282
Digital or online materials can be accessed from computers	76	2	6.00	6.00	7	1.306
Library online catalogue is easy to understand and navigate	77	1	5.61	6.00	6	1.339
Library website contains necessary information	76	2	5.97	6.00	7	1.356
Physical condition of resources in collection is good	76	2	5.97	6.00	7	1.326
Required resources are available	76	2	5.99	6.00	7	1.351
Resources are delivered timeously	77	1	6.00	6.00	7	1.203
Convenient opening and closing hours	76	2	5.68	6.00	7	1.551
Giving priority to the users interest	76	2	5.80	6.00	7	1.442
Library staff give individual attention to the users	75	3	5.92	6.00	7	1.313
Library staff understand the needs of the users	75	3	5.84	6.00	7	1.346
Library staff deal with users in a considerate manner	76	2	5.96	6.00	7	1.216
The Library is comfortable and is in a good location	74	4	5.86	6.00	7	1.417

Library provides space that enables quiet and calm study	75	3	5.83	6.00	7	1.492
Library can be depended upon in handling users service problems	75	3	5.79	6.00	6	1.378
Library staff provide services accurately with minimum interruption	75	3	5.73	6.00	6	1.189
Library staff provide services as promised	75	3	5.96	6.00	7	1.235
Library staff provides services in a timely manner	75	3	6.03	6.00	7	1.208
Library staff have willingness to help users	76	2	5.99	6.00	7	1.291
Library staff keep users informed about when services will be performed	76	2	5.97	6.00	7	1.326
Library staff serve users promptly	76	2	5.95	6.00	6	1.285
Library staff are always ready to respond to users questions	76	2	5.96	6.00	7	1.331
Equipment in the library is modern and in good condition	76	2	5.67	6.00	7	1.360
Library facilities are visually appealing (such as computer, audiovisual etc.)	76	2	5.47	6.00	7	1.437
Library materials (such as brochures, statements or signs) associated with the services are visually appealing	76	2	5.71	6.00	6	1.305

Table 13 shows the most occurring mode for the respondents perception as 7 with a few rating 6. Since 6 and 7 are the two highest ratings on the questionnaire, this can be interpreted that the respondents felt that AKU library provided quality services.

From the above tables, that is, Table 12 and Table 13, it is evident that the most occurring mode for both expectation of AKU library services and perception of the quality of AKU library services is 7. This therefore means that majority of the respondents expect the AKU Library to possess all the service items listed in the SERVQUAL questionnaire. The respondents also seemed to agree that AKU library provided quality services.

For ease of data analysis verbal qualifiers were assigned to the Likert scale rating. The verbal qualifiers were deemed necessary for ease of explanation of the ratings. According to Rohrmann (2007), although few publications provide adequate information on verbal qualifiers they can be useful in “the ease-of-explanation and familiarity” and in the analysis of data. During the analysis of the data in this study the following verbal qualifiers were adopted: **1** – Strongly disagree; **2** – Disagree; **3** – Somewhat disagree; **4** – Neutral; **5** – Somewhat agree; **6** – Agree; **7** – Strongly agree (Vagias 2006). Therefore using these qualifiers it can be interpreted that the respondents strongly agreed that AKU library should possess all the service items. The respondents also strongly agreed that AKU library provides quality services.

4.3.1 Respondents’ expectations frequency as per the verbal qualifiers

Table 14 shows the verbal qualifiers frequencies of the respondents’ feedback with regards to their expectations of AKU library services.

Table 14. Respondents’ expectations frequency as per the verbal qualifiers

		Frequency	Percent
Valid	Strongly disagree	1	1.3
	Disagree	2	2.6
	Neutral	1	1.3
	Somewhat agree	15	19.2
	Agree	35	44.9
	Strongly agree	24	30.8
	Total	78	100.0

The results show that majority of the respondents expectations of AKU library services is within the range of “somewhat agree” to “strongly agree”. From the findings it can therefore be deduced that majority of AKU library users expect the AKU Library to provide the various service items.

Chart 6. Respondents' expectations frequency as percentages for the verbal qualifiers

Chart 6 shows the percentages for the verbal qualifiers of the respondents' expectation of AKU library services.

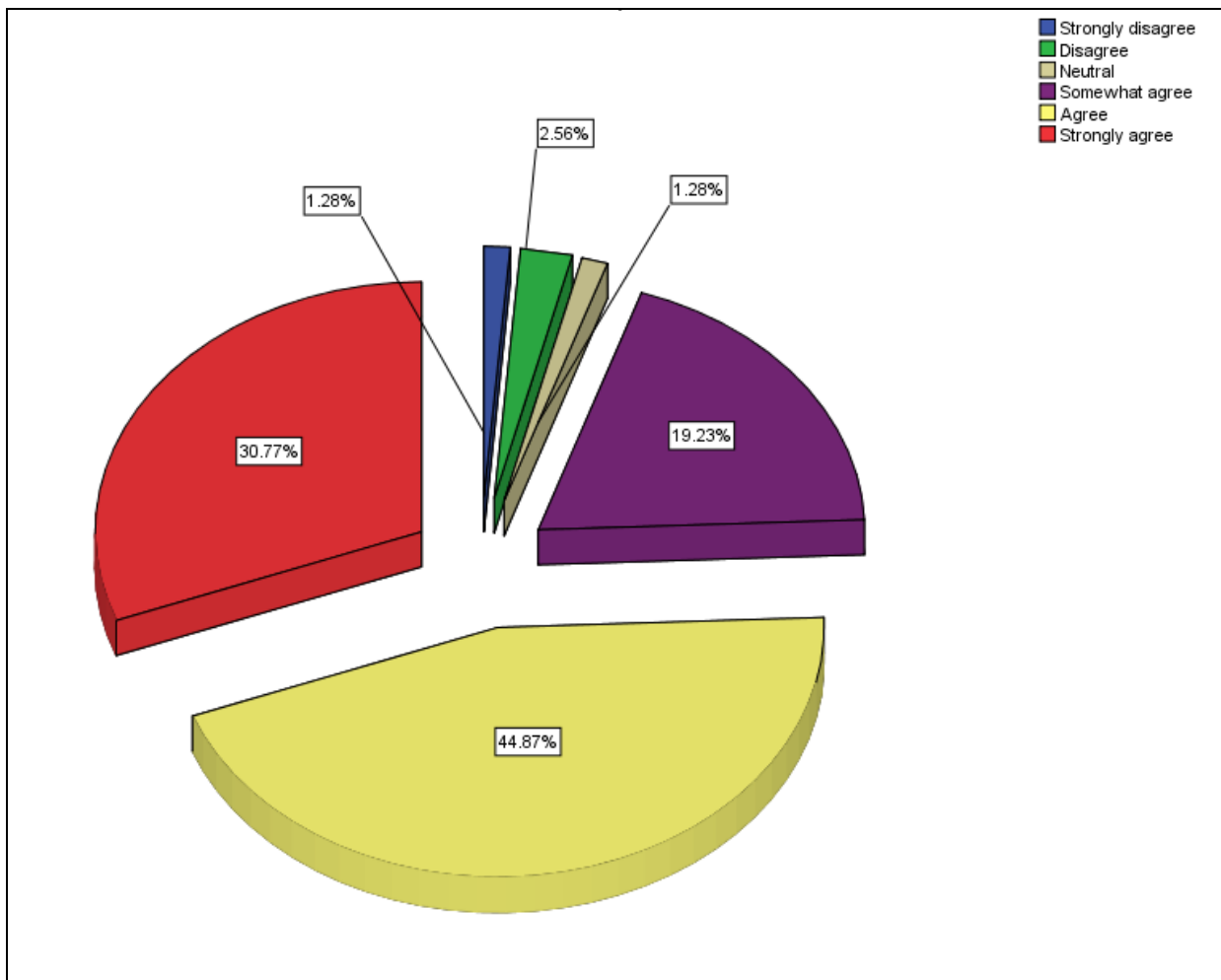


Chart 6 shows the respondents expectation frequency as percentages for the verbal qualifiers are as follows: strongly disagree (1.28%), disagree (2.56%), neutral (1.28%), somewhat agree (19.23%), agree (44.8%) and strongly agree (30.77%). These results clearly suggest that the highest number of respondents agreed that the service items listed should be available at the AKU Library.

4.3.2 Respondents' perceptions frequency as per the verbal qualifiers

Table 15 and Chart 7 show the verbal qualifiers frequencies of the respondents' feedback with regards to their perception of AKU library service quality.

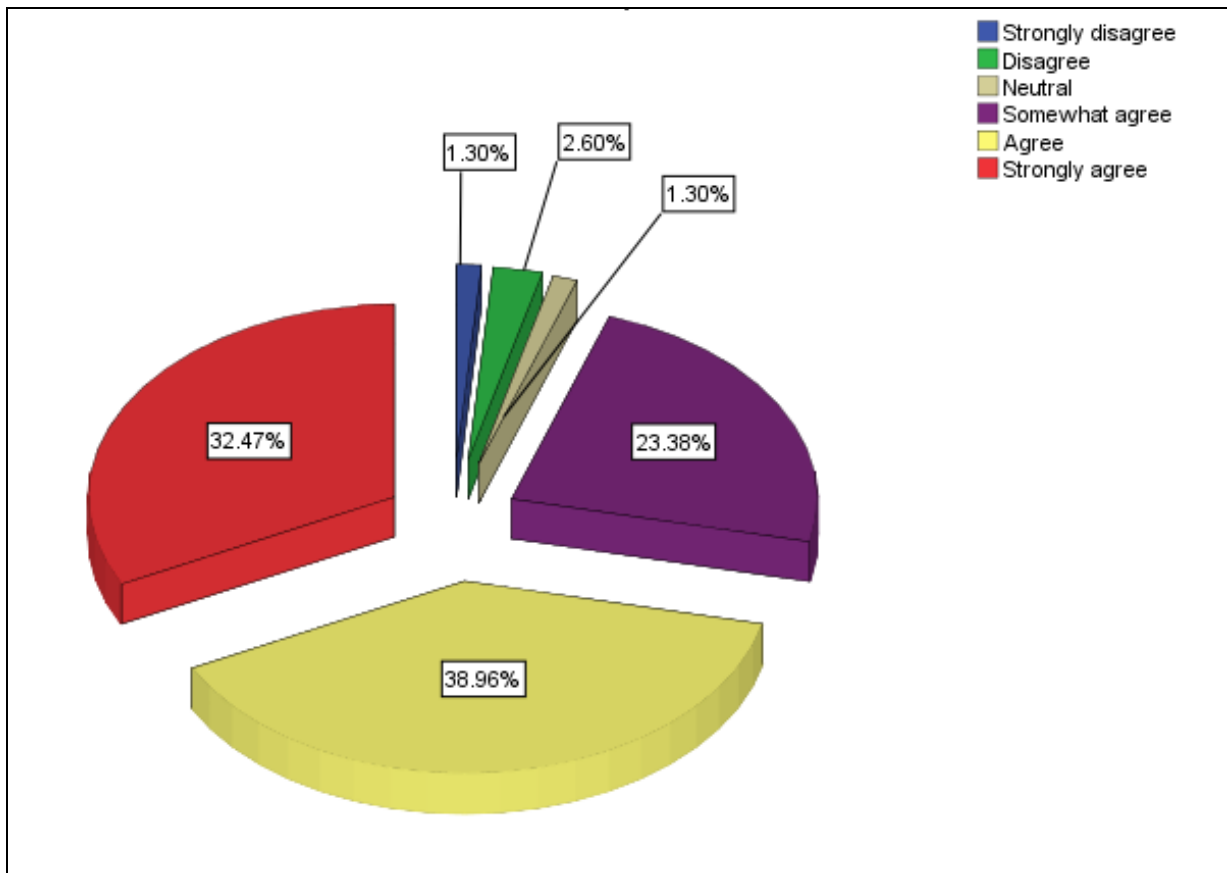
Table 15. Respondents' perceptions frequency as per the verbal qualifiers

		Frequency	Percent
Valid	Strongly disagree	1	1.3
	Disagree	2	2.6
	Neutral	1	1.3
	Somewhat agree	18	23.1
	Agree	30	38.5
	Strongly agree	25	32.1
	Total	77	98.7
Missing	System	1	1.3
Total		78	100.0

The results show that the majority of the respondents, with regards to their perception of AKU library services, was within the range of “somewhat agree” to “strongly agree”. These findings suggest that the majority of the respondents generally agreed that AKU library delivers quality services.

Chart 7. Respondents' perceptions frequency as percentages for the verbal qualifiers

Chart 7 shows the percentages for the verbal qualifiers of the respondents' perception with regards to the quality of AKU library services.



With regards to the respondents' perception of AKU library service quality, Chart 7 shows 38.6% of the respondents agree and this was the majority. Those that strongly agree constituted 32.47% of the respondents. 23.38% somewhat agree; 2.6% disagree; 1.3% were neutral and 1.3% strongly disagree. From the findings it is evident that majority of the respondents' were generally satisfied with the quality of AKU library services.

4.4 Variables of service quality that meet or exceed AKU library users' expectations

4.4.1 Respondents' expectations mean frequency

Table 16 shows the respondents' expectation frequency for all the service quality statements. The table also shows the mean and standard deviation for each statement.

Table 16. Service quality variables descriptive statistics

Statement items	N	Mean	Std. Deviation
Resources are delivered timeously	77	6.06	1.174
Library staff provide services accurately with minimum interruption	78	5.88	1.195
Library staff serves users promptly	78	6.01	1.201
Library staff provide services in a timely manner	78	6.05	1.205
Library staff provide services as promised	77	6.14	1.232
Information from library meets users' needs	77	6.16	1.236
Required resources are available	78	5.90	1.244
Convenient access to library collections	78	5.94	1.283
Digital or online materials can be accessed from computer	78	6.14	1.297
Library staff deal with users in a considerate manner	77	6.05	1.307
Library online catalogue easy to understand	78	5.63	1.310
Library dependable in handling user service problems	78	5.91	1.341
Library staff give individual attention to user	77	5.90	1.343
Library staff have willingness to help users	77	6.10	1.343
The Library is comfortable and is in good location	78	6.01	1.353
Library staff keep users informed about when services will be performed	78	6.00	1.358
Library materials associated with services are visually appealing	78	5.69	1.361
Equipment in the library is modern and in good condition	77	5.74	1.361
Library staff understand the needs of the users	77	5.90	1.363
Physical condition of resources in collection is good	75	6.03	1.365
Library staff are always willing to respond to users questions	78	6.06	1.399
Library website contains necessary information	78	5.99	1.419

Assuring users of accuracy and confidentiality of their information	78	5.87	1.427
Library staff are always courteous	77	5.84	1.433
Giving priority to the users interest	77	5.84	1.442
Library facilities are visually appealing	78	5.56	1.456
It is easy to provide feedback - compliment, complaint or suggestion	77	5.62	1.469
Library staff are knowledgeable to answer user queries	75	5.93	1.473
Convenient opening and closing hours	78	5.73	1.593
Library provides space that enables quiet and calm study	78	5.67	1.711

Results from the table above indicate that the expectation mean ranged from 5.56 – 6.16, that is, between “somewhat agree” and “agree”. The standard deviation for the service quality variable statements for the respondents’ expectation was between 1.174 and 1.711 indicating a small variation in the respondents rating. As earlier demonstrated the mean score of the respondents expectation of AKU library services is between “somewhat agree” and “agree”. On the questionnaire Likert scale this is represented by the rates 5 to 6. This therefore shows that respondents are generally in agreement that AKU library should possess the service items and hence suggesting that AKU library users expect to find the services in the library.

4.4.2 Respondents expectations

Table 17 arranges the respondents’ expectation mean from the highest to the lowest for ease of identifying the service statement that are rated high as well as those rated low. As earlier mentioned the mean shows the average for the set of score from the respondents.

Table 17. Respondents' highest and lowest expectations

Service statements for the various service quality attributes for user expectation	N	Mean	Std. Deviation
Information from library resources meets users' needs	77	6.16	1.236
Library staff provide services as promised	77	6.14	1.232
Digital or online materials can be accessed from computer	78	6.14	1.297
Library staff have willingness to help users	77	6.10	1.343
Resources are delivered timeously	77	6.06	1.174
Library staff are always willing to respond to users questions	78	6.06	1.399
Library staff deal with users in a considerate manner	77	6.05	1.307
Library staff provide services in a timely manner	78	6.05	1.205
Physical condition of resources in collection is good	75	6.03	1.365
The Library is comfortable and is in a good location	78	6.01	1.353
Library staff serve users promptly	78	6.01	1.201
Library staff keep users informed about when services will be performed	78	6.00	1.358
Library website contains necessary information	78	5.99	1.419
Convenient access to library collections	78	5.94	1.283
Library staff are knowledgeable to answer user queries	75	5.93	1.473
The Library can be depended upon in handling user service problems	78	5.91	1.341
Required resources are available	78	5.90	1.244
Library staff give individual attention to user	77	5.90	1.343
Library staff understand the needs of the users	77	5.90	1.363

Library staff provide services accurately with minimum interruption	78	5.88	1.195
Assuring users of accuracy and confidentiality of their personal information	78	5.87	1.427
Giving priority to the users interest	77	5.84	1.442
Library staff are always courteous	77	5.84	1.433
Library dependable in handling user service problems	75	5.79	1.378
Equipment in the library is modern and in good condition	77	5.74	1.361
Convenient opening and closing hours	78	5.73	1.593
Library materials (such as brochures, statements or signs) associated with services are visually appealing	78	5.69	1.361
Library provides space that enables quiet and calm study	78	5.67	1.711
Library online catalogue is easy to understand and navigate	78	5.63	1.310
It is easy to make a compliment, complaint or suggestion about services	77	5.62	1.469
Library facilities are visually appealing (such as computer, audio-visual etc.)	78	5.56	1.456

The table shows twelve (12) service quality statements that have a mean rate between 6.00 and 6.16. This means these are the 12 service quality statements the respondents indicated that they “agreed” should be services that they expect to find at AKU library. Of these 12 statements, the statement with the highest mean is found under the service quality attribute “Assurance” namely: Information I get from library meets my needs. According to the respondents’ expectations, this statement has the highest mean of 6.16 and hence can be considered as the most important service that AKU library should possess. AKU library should therefore ensure that it provides information that meets the needs of its users.

The second highest mean was 6.14 and this is for two service statements, that is, “Library staff provides services as promised” and “digital or online material can be accessed from

computer”. These are service statements under the service quality attributes “reliability” and “collection & access” respectively. Other notable service statements among the 5 with the highest mean score are, “library staff have willingness to help users” and “resources are delivered timeously. These are statements under service quality attributes “responsiveness” and “collection & access” respectively.

The service statement with the lowest expectation mean of 5.56 is “library facilities associated with services are visually appealing” and this is under the service quality attribute “tangibles”. The second lowest mean is 5.6 and this is the mean score for two service statements, that is, “library provides space that enables quiet and calm study” and “library online catalogue is easy to understand”. These 2 service statements are under the service attributes “library as a place” and “collection & access” respectively. From these findings it may be interpreted that respondents do not consider these as services that AKU library should necessarily possess. This can also imply that it may not be necessary for AKU library to allocate too much time and resources on these services but should be keener on those that scored a higher mean rate as indicated above so as to meet users’ expectation.

4.4.3 Respondents highest and lowest perceptions mean

Table 18 below arranges the mean of the respondents’ perception of the quality of AKU library services from the highest to the lowest. This is for ease of identifying the service statements that the respondents perceive to be of high quality as well as those that rated low as shown by the mean score.

Table 18. Respondents' perceptions mean

Service statements for the various service quality attributes for user perception	N	Mean	Std. Deviation
Library staff provides services in a timely manner	75	6.03	1.208
Digital or online materials can be accessed from computers	76	6.00	1.306
Resources are delivered timeously	77	6.00	1.203
Library staff have willingness to help users	76	5.99	1.291
Required resources are available	76	5.99	1.351
Information from library meets users' needs	77	5.97	1.337
Physical condition of resources in collection is good	76	5.97	1.326
Library website contains necessary information	76	5.97	1.356
Library staff keep users informed about when services will be performed	76	5.97	1.326
Library staff are knowledgeable to answer user queries	75	5.97	1.395
Convenient access to library collection	77	5.96	1.282
Library staff are always ready to respond to users questions	76	5.96	1.331
Library staff deal with users in a considerate manner	76	5.96	1.216
Library staff provide services as promised	75	5.96	1.235
Library staff serve promptly to the users	76	5.95	1.285
Library staff give individual attention to users	75	5.92	1.313
Library staff are always courteous	77	5.88	1.376
The Library is comfortable and is in a good location	74	5.86	1.417
Library staff understand the needs of the users	75	5.84	1.346
Library provides space that enables quiet and calm study	75	5.83	1.492
Giving priority to the users interest	76	5.80	1.442
It is easy to make a compliment, complaint or suggestion about services	77	5.79	1.218
Assuring users of accuracy and confidentiality of their personal information	77	5.75	1.406
Library staff provide services accurately with minimum interruption	75	5.73	1.189
Library materials (such as brochures, statements or signs) associated with services are visually appealing	76	5.71	1.305
Convenient opening and closing hours	76	5.68	1.551
Equipment in the library is modern and in good condition	76	5.67	1.360
Library online catalogue is easy to understand	77	5.61	1.339
Library facilities are visually appealing (such as	76	5.47	1.437

Generally the mean of the respondents' perception of the quality of AKU library services is not as high as the mean of the respondents' expectation of what AKU library should possess. This is evident from the results that recorded only 3 service quality statements within a mean score of 6 – 6.03, as shown on Table 18. This shows that as per their perception, the respondents agree that only 3 service quality statements meet their expectations. The 3 service quality statements with the highest perception mean as revealed by the results can be identified as:

- Library staff provides services in a timely manner, that is, a service within the “reliability” service quality attribute.
- Digital online materials can be accessed from computer, that is, a service within the “collection & access” service quality attribute.
- Resources are delivered timeously, that is, a service within the “collection & access” service quality attribute

The findings shows one service statement under the service quality attribute “reliability” and two service statements under the service quality attribute “collection & access” and this may imply that these are the service quality attributes of AKU library services that meet the expectations of the respondents.

It is important to note that the 3 service statements that the respondents scored above a mean of 6 in view of their perception of AKU library services, is a significantly lower number of service statements in comparison to the 12 service statements that the respondents scored above a mean of 6 in view of their expectation of AKU library services. It is also notable that there is no service quality statement that the respondents strongly agreed that AKU library met their expectations. This is evident from the results on Table 18 that does not record a mean score of 7 for any service statement. The findings are an indication that the quality of AKU library services may not entirely be satisfactory as the library is not meeting most of the expectations of the users as well as

an indication that there may be gaps between the respondents' expectations and the respondents' perceptions of AKU library services.

4.5 Services that fall short of the users' expectations.

Services that fall short of the users' expectations can be depicted from the respondents' perceptions. As shown in Table 13, the survey results demonstrate the respondents' perceptions of AKU library services and the service statement items with the lowest perception mean can be depicted as those that fall short of the users' expectations. From this study the 5 service statement items with the lowest perception means are as follows:

1. Library facilities are visually appealing (such as computer, audiovisual) – **(Tangibles)**
2. Library online catalogue is easy to understand – **(Collection & Access)**
3. Equipment in the library is modern and in good condition – **(Tangibles)**
4. Convenient opening and closing hours – **(Collection & Access)**
5. Library material (such as brochures, statements or signs) associated with services are visually appealing – **(Tangibles)**

The above service statements show three (3) statements under the service attribute “tangibles” and two (2) statements under the service attribute “collection & access”. This therefore shows a need for the AKU library to improve its tangible attributes as well as collection and access in order to meet the users' expectations.

4.6 Gaps between users' perceptions and expectations

The study sought to determine the gaps between users' perceptions and expectations. As indicated in Chapter 1, section 1.5.2, using the formula $G = P - E$, the SERVQUAL questionnaire was based on the basic assumption that if a negative score is obtained this would mean that the performance is below expectations, translating into a low service quality perception. If a positive score is obtained this would mean that the performance exceeds expectation, translating into high service quality (Parasuraman 1988; Robinson

1999; Awan, Azam & Asif 2008:54; Manjunatha & Shivalingaiah 2004:146; Somaratna, Peiris & Jayasundara 2010:2; Filiz 2007:8). SERVQUAL was therefore developed based on the notion that to deliver high quality service there should be no gap between the users' expectation and perceptions (Tuomi 2001:4).

Table 19. Service quality gaps by item

Table 19 shows the results of the service quality gap score for each service statement item. The gap scores have been arranged from the largest to the smallest in order to easily identify the largest positive gap and largest negative gap.

Service quality statements for the various attributes	N	Gap
Library staff are always willing to respond to users questions	76	0.29
Library staff are always courteous	77	0.25
It is easy to make compliments, complaints or suggestion about services	77	0.17
Library staff provide services in a timely manner	75	0.14
Library provides space that enables quiet and calm study	75	0.13
Library staff are knowledgeable to answer user queries	75	0.13
Physical condition of resources in collection is good	76	0.08
Library staff keep users informed about when services will be performed	76	0.08
Library online catalogue is easy to understand	77	0.05
Convenient access to library collections	77	0.03
Required resources are available	76	0.00
Library staff give individual attention to the users	75	-0.01
Resources are delivered timeously	77	-0.03
The library is comfortable and is in a good location	74	-0.03
Library website contains necessary information	76	-0.04
Library staff provide services as promised	75	-0.04
Giving priority to the users interests	76	-0.04

Convenient opening and closing hours	76	-0.05
Library staff is willing to help users	76	-0.07
Equipment in the library is modern and in good condition	76	-0.07
Library staff deal with users in a considerate manner	76	-0.10
Assuring users of accuracy and confidentiality of their personal information	77	-0.12
Digital or online materials can be accessed from computers	76	-0.14
Information from library meets users' needs	77	-0.18
Library staff promptly serve users	76	-0.20
Library materials (such as brochures, statements or signs) associated with services are visually appealing	76	-0.20
Library staff understand the needs of the users	75	-0.21
Library facilities are visually appealing (such as computer, audio-visual)	76	-0.31
Library staff provide services accurately with minimum interruption	75	-0.37

Results from this table show eleven (11) service statement items that have a positive score, and 18 service quality statements with a negative score. Those that are negatively marked indicate the service statements that do not meet the expectations of the respondents and hence low service quality.

Since the negative gaps are arranged from the smallest to the largest in Table 18, the largest gaps of service quality statements are thus easy to identify. Though eighteen (18) service quality statements have a negative gap we can identify the five (5) service quality statements with the largest as follows:

1. Library staff provide services accurately with minimum interruption i.e. **Reliability** (Gap = -0.37).
2. Library facilities are visually appealing; such as computer, audio-visual i.e. **Tangibles** (Gap = -0.31).

3. Library staff understand the needs of the users i.e. **Empathy** (Gap = -0.21).
4. Library materials (such as brochures, statements or signs) associated with services are visually appealing i.e. **Tangibles** (Gap = -0.20).
5. Library staff promptly serve users i.e. **Responsiveness** (Gap = - 0.20)

The above findings may provide an indication of service areas that AKU library needs to improve as these service areas had one of the largest negative scores translating into low service quality.

4.7 Paired perceptions and expectations means for the service quality dimensions

As discussed in Chapter 3, section 3.5 of this study, seven service quality dimensions, namely, assurance, empathy, reliability, responsiveness, tangibles, collection & access and library as a place, were used in the questionnaire. In order to see whether there are gaps between the respondents' expectations and perceptions, paired "t tests" analysis was conducted and results presented in Table 20. The paired sample t-test generally compares the mean of 2 variables. Table 20 pairs the respondents' mean for the 2 variables expectations and perceptions for each dimension.

Table 20 Paired dimensions means for users' perceptions and expectations

		Mean	N	Std. Deviation
Pair 1	Assurance Expectation mean	5.902	77	1.1951
	Assurance Perception mean	5.873	77	1.1804
Pair 2	Collection and Access Expectation mean	5.958	77	1.1350
	Collection and Access Perception mean	5.926	77	1.1588
Pair 3	Empathy Expectation mean	5.884	76	1.2356
	Empathy Perception mean	5.835	76	1.2261
Pair 4	Library as a place Expectation mean	5.907	75	1.4206
	Library as place perception mean	5.847	75	1.3901
Pair 5	Reliability Expectation mean	5.980	75	1.1246
	Reliability Perception mean	5.877	75	1.1671
Pair 6	Responsiveness Expectation mean	6.046	76	1.2501
	Responsiveness Perception mean	5.967	76	1.2405
Pair 7	Tangibles Expectation mean	5.662	76	1.3305
	Tangibles Perception mean	5.618	76	1.3027

The results in the above table reveal that there is a slight difference between the expectation mean and perception mean whereby the expectation mean of most dimensions is slightly higher than the perception mean. Therefore, in line with the gap theory, since the respondents' expectations are higher or rather greater than their

perceptions this is an indication that there is a service quality gap in the AKU library services (Lin et al 2009:5)

Table 21 that follows shows the paired dimensions mean correlations for the respondents' expectation and perception. The purpose for this is to show the correlation between the expectation and perception mean for each dimension.

Table 21. Paired dimensions means correlations for users perceptions and expectations

		N	Correlation
Pair 1	Assurance Expectation mean & Assurance Perception mean	77	.839
Pair 2	Collection and Access Expectation mean & Collection and Access Perception mean	77	.866
Pair 3	Empathy Expectation Mean & Empathy Perception mean	76	.905
Pair 4	Library as a place Expectation mean & Library as place Perception mean	75	.757
Pair 5	Reliability Expectation Mean & Reliability Perception mean	75	.835
Pair 6	Responsiveness Expectation mean & Responsiveness Perception mean	76	.902
Pair 7	Tangibles Expectation Mean & Tangibles Perception mean	76	.893

Table 21 shows the correlation coefficient for the paired dimensions for the respondents' expectations and perceptions as being between the ranges of 0.7 to 0.9. As these correlations are close to 1, it indicates a strong positive correlation between the respondents' expectations and perceptions for the various service dimensions. This can therefore be interpreted to mean that there is a strong relationship between the users' expectations and perceptions with regards to service quality.

Table 22 that follows shows the paired means of the respondents' expectations and perceptions of the various dimensions. A two-tailed statistical test is used to investigate whether the respondents' expectations and perceptions are statistically significant. In statistics the level of significance is determined by the p-value and generally the accepted p-value for something to be significant is $p < 0.05$.

Table 22. Paired dimension mean t-tests for the user perceptions and expectations

	Paired Differences					t	df	Sig. (2- tailed) P- value
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Assurance Expectation mean - Assurance Perception mean	.0292	.6732	.0767	-.1236	.1820	.381	76	.704
Pair 2 Collection and Access Expectation Mean - Collection and Access Perception mean	.0323	.5953	.0678	-.1028	.1674	.476	76	.636
Pair 3 Empathy Expectation mean - Empathy Perception mean	.0493	.5376	.0617	-.0735	.1722	.800	75	.426

Pair 4	Library as a place Expectation mean – Library as a place Perception mean	.0600	.9794	.1131	-.1653	.2853	.531	74	.597
Pair 5	Reliability Expectation Mean - Reliability Perception mean	.1033	.6590	.0761	-.0483	.2550	1.358	74	.179
Pair 6	Responsiveness Expectation mean - Responsiveness Perception mean	.0789	.5526	.0634	-.0473	.2052	1.246	75	.217
Pair 7	Tangibles Expectation Mean - Tangibles Perception mean	.0439	.6094	.0699	-.0954	.1831	.627	75	.532

Table 22 shows the p-values range between 0.179 – 0.704 for all the paired dimensions for the users' expectations and respondents. Since the p value for all the dimensions is bigger than > 0.05 , then statistically this should mean that there is no significant relationship. This could also mean that there is no statistically significant relationship between the expectations of the users and their perception for the different dimensions. However since Table 21 shows a correlation for all dimensions between the ranges 0.7 to 0.9, hence indicating a strong positive correlation between the respondents' expectations and perceptions for the various service dimensions then it can therefore be argued that

there is a strong relationship between the users' expectations and perceptions with regards to service quality.

4.8 AKU users' expectations and perceptions based on the demographic variables

The study sought to find out if there is any relationship between the AKU users' expectations and perceptions and the various demographic variables namely, user category, age, highest academic qualification and number of years in the institution.

Inferential statistical analysis was therefore used to establish this correlation between the AKU users' expectations and perceptions and the various demographic variables, that is, to investigate the degree of relationship. In the study a Pearson correlation matrix is used. The Pearson correlation matrix is used to show the direction, the strength and the significance of the bivariate relationship. According to Bryman (2004:231) the Pearson method has 3 main features as follows:

- *The coefficient will almost certainly lie between 0 (zero or no relationship between variables) and 1 (a perfect relationship) – this indicates the strength of a relationship.*
- *The closer the coefficient is to 1, the stronger the relationship; the closer it is to zero, the weaker the relationship*
- *The coefficient will be either positive or negative – this indicates the direction of a relationship.*

4.8.1 User category: Faculty and students

Table 23, 24 and 25, show descriptive statistics of the user category. These are the student and the faculty respondents, with regards to their expectation mean and perception mean. Generally 54 students and 22 faculty members responded.

Table 23. Distribution of respondents' for the expectations and perceptions by user category

	General user categorization: student user or faculty user	Number of respondents in the sample					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
User	Student	54	100.0%	0	0.0%	54	100.0%
Expectation	Faculty	22	100.0%	0	0.0%	22	100.0%
Mean	Student	54	100.0%	0	0.0%	54	100.0%
User Perception	Faculty	22	100.0%	0	0.0%	22	100.0%
Mean	Student	54	100.0%	0	0.0%	54	100.0%
	Faculty	22	100.0%	0	0.0%	22	100.0%

Table 24. Descriptive statistics of respondents' expectations and perceptions by user category

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
User category	76	3	1	4	1.92	1.208	1.460
User Expectation	76	6	1	7	5.42	.983	.967
Mean							
User Perception	76	6	1	7	5.42	1.062	1.127
Mean							
Valid N (listwise)	76						

Table 25. User category descriptive summary

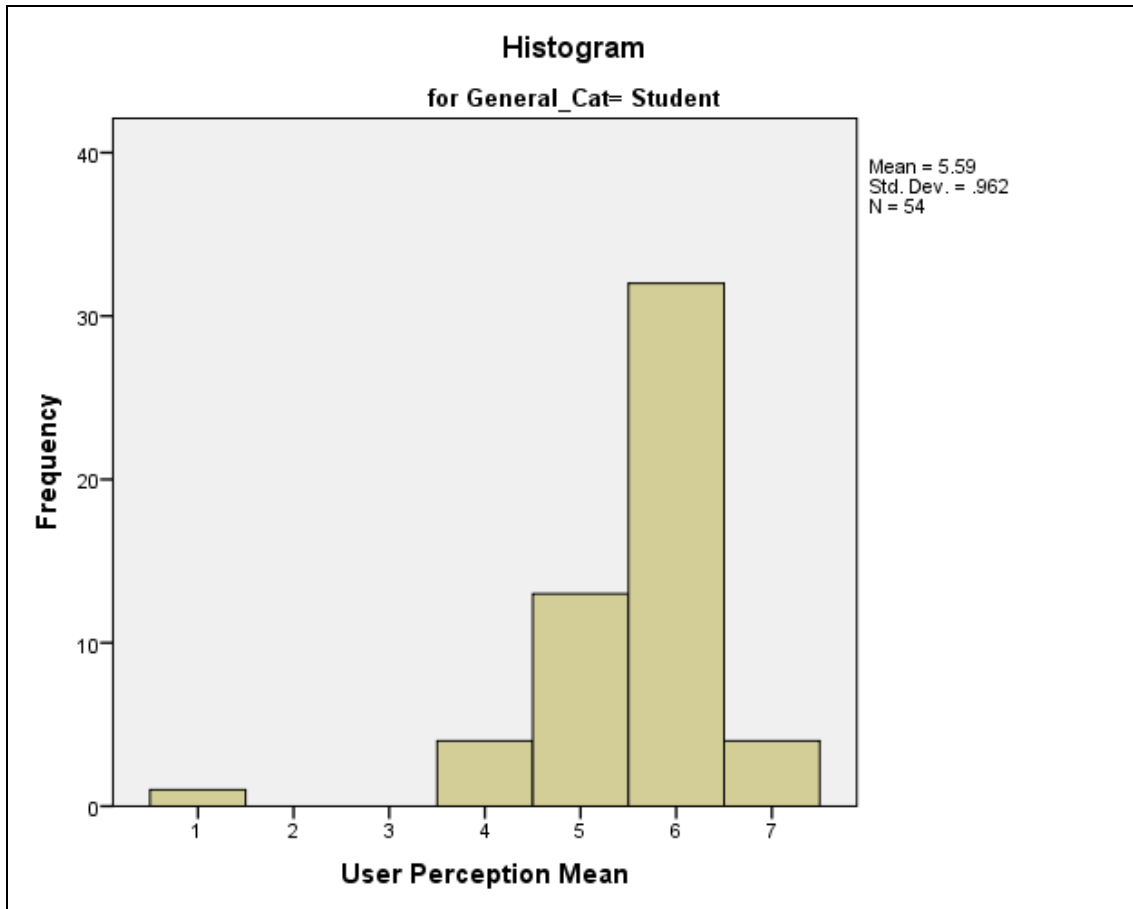
	General user Category		Statistic
User Expectation Mean	Student	Mean	5.54
		Std. Deviation	.946
	Faculty	Mean	5.14
		Std. Deviation	1.037
User Perception Mean	Student	Mean	5.59
		Std. Deviation	.962
	Faculty	Mean	5.00
		Std. Deviation	1.195

Table 25 shows the mean for student expectations (5.54) and perceptions (5.59) against the faculty expectations (5.14) and perceptions (5.00). The mean of student expectations and student perceptions are generally close. The results show that the student expectations and perceptions are slightly higher than the expectations and perceptions of the faculty. This may be an indication that the students expect the AKU library to possess more service items than what the faculty expects from the library. The findings also suggest that, of the various services provided by AKU library, the students have a higher opinion of the quality compared to the faculty. This means that the opinion of faculty users with regards to the quality of AKU library services is lower than that of the student users.

Chart 8, 9 and 10 are histogram graphs demonstrating the student user category perception frequency mean and the faculty user category perception frequency mean. As demonstrated the student user category frequency mean was 5.59 while that of faculty was 5. This shows that the students' views of the quality of AKU library services were higher than that of the faculty. The findings may also suggest that the students are slightly more satisfied with the AKU library services than the faculty members. The standard deviation for the student user category was 0.96 while that of the faculty user category is indicated as 1.19. The standard deviation also shows that students in general seem have a

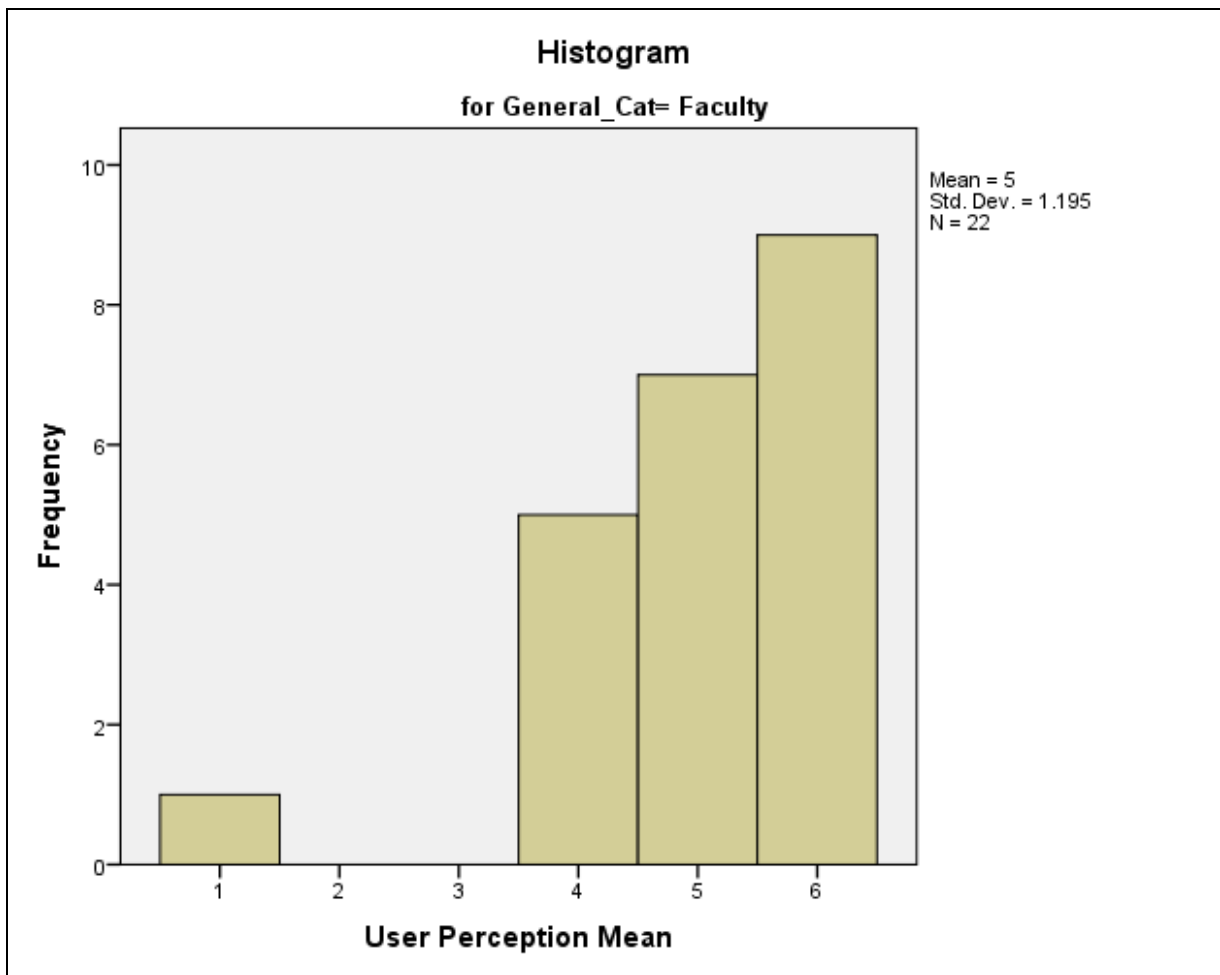
similar opinion with regards to the quality of the library services while the faculty opinion was more diverse.

Chart 8. Student perceptions mean frequency



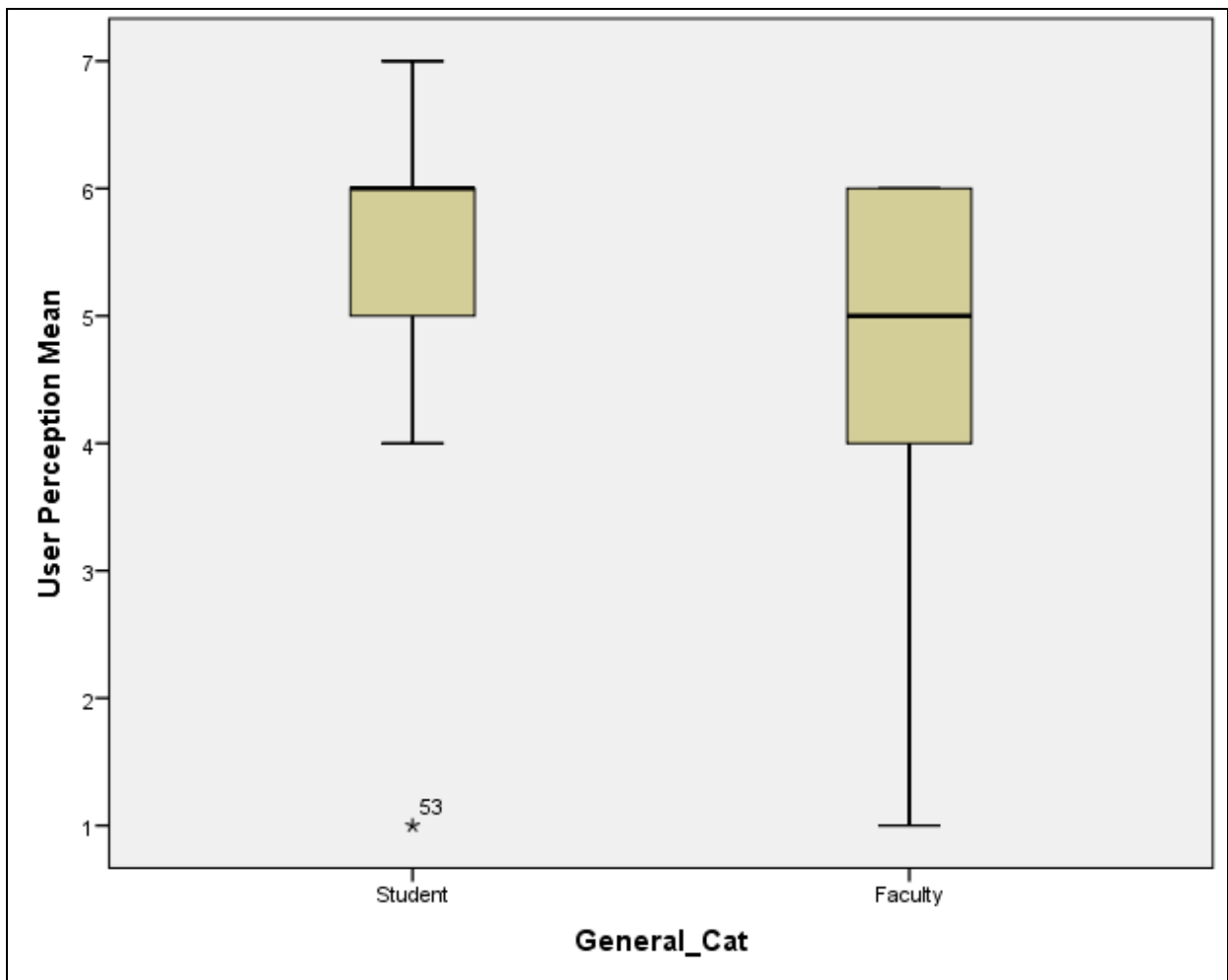
The above histogram demonstrates the findings that indicate the students' perception mean of 5.59 and hence showing that the majority of the students were generally closer to the mean (SD = .962). This shows that the student respondents were generally in agreement with regards to the service quality of the library services.

Chart 9. Faculty perceptions mean frequency



The above histogram demonstrates the findings that indicate that though the perception mean of the faculty was 5; their opinion was more diverse than that of the students. The histogram shows a higher frequency of faculty members with a low mean of 1 compared to the students. This shows that more faculty than students had a very low opinion (mean = 1) of the quality of the services.

Chart 10. Student versus Faculty perceptions mean frequency difference



The above stock chart clearly demonstrates that the perception of students (mean =5.59) was slightly higher than that of faculty members (mean = 5). As earlier indicated this illustrates that the students had a slightly higher opinion of the AKU library service quality than the faculty.

4.8.2 User category correlations

Table 26 shows the relationship between the users', that is, students and faculty, and their expectations and perceptions. The Pearson correlation test and two-tailed test are used to investigate the statistical significance of the results.

Table 26 Correlation between users' expectations and perceptions by user category

		user category	User Expectation Mean	User Perception Mean
User category	Pearson Correlation	1	-.166	-.225
	Sig. (2-tailed)		.148	.051
	N	77	77	76
User Expectation Mean	Pearson Correlation	-.166	1	.916**
	Sig. (2-tailed)	.148		.000
	N	77	77	76
User Perception Mean	Pearson Correlation	-.225	.916**	1
	Sig. (2-tailed)	.051	.000	
	N	76	76	76

** . Correlation is significant at the 0.01 level (2-tailed).

Table 26 shows that the correlation between the users' expectations and category of the user is a weak negative correlation significance at -0.166, at the 0.01 level (2-tailed). The table also shows that the correlation between users' perceptions and users' categories is a weak negative correlation of -0.225, at the 0.01 (2- tailed analysis). Since the p-value > 0.05, there is no statistically significant difference between the user category and the expectations and perceptions. If it is assumed that the user category may influence the expectations and perceptions of library services, the weak negative correlation in the study show that in the case of AKU library users this only influences to a very slight extent and hence can be considered insignificant. Hence this can be interpreted that the

category of AKU library users, that is, student or a faculty member, does not influence AKU library users' expectations of AKU library services or view of what AKU library should possess.

4.8.3 Correlations between user expectations, user perceptions and age

The tables that follow show the correlation between user expectation, and user perception with regard to the age group

Table 27. Descriptive Statistics for the correlation between user expectations, perceptions and age

	Mean	Std. Deviation	N
User Expectation Mean	5.9868	1.04809	77
User Perception Mean	5.9405	1.09255	76
Age	2.58	1.508	78

Table 27 shows the correlation between for the users' expectation and perception mean, and the age of the users. The results generally show that the respondents' mean with regard to their expectations and perceptions of the AKU library was high (mean = 5.9), that is, within the range of "somewhat agree" to "strongly agree". The table also shows that the mean age for the respondents' was within the second age group provided in the questionnaire, that is, between 31 and 35 years.

In order to investigate whether there is statistically significant correlation between the age of the respondents and their expectations and perceptions, the Pearson correlation test and two-tailed test were used, as shown in Table 28 that follows below.

Table 28. Correlations between user expectations, user perceptions and age

		User Expectation Mean	User Perception Mean	Age
User Expectation Mean	Pearson Correlation	1	.861**	.187
	Sig. (2-tailed)		.000	.104
	N	77	76	77
User Perception Mean	Pearson Correlation	.861**	1	.056
	Sig. (2-tailed)	.000		.630
	N	76	76	76
Age	Pearson Correlation	.187	.056	1
	Sig. (2-tailed)	.104	.630	
	N	77	76	78

** . Correlation is significant at the 0.01 level (2-tailed).

Table 28 shows that the correlation between the user expectation mean and users' age is a weak positive correlation of 0.187 (p-value of 0.104). The table also shows that the correlation between user perception mean and user age is a weak positive correlation of 0.056 (p-value of 0.63). Since the p-value > 0.05, there is no statistically significant difference between the age of the user expectation and the user perception. This therefore shows that the age of AKU library users does not influence their expectations and perceptions of AKU library services.

4.8.4 Correlation between user expectations, perceptions and highest academic qualification

The tables that follow show the correlation between user expectation, and user perception with regards to the highest academic qualification. Table 29 shows the descriptive statistics for the user expectation mean, perception mean and the highest academic qualification, while Table 30 applies the Pearson correlation test and two-tailed test in

order to investigate whether there is statistically significant correlation between the highest academic qualification of the respondents and their expectations and perceptions.

Table 29. Descriptive Statistics for the correlation between user expectations, perceptions and highest academic qualification

	Mean	Std. Deviation	N
User Expectation Mean	5.9868	1.04809	77
User Perception Mean	5.9405	1.09255	76
Highest Academic Qualification	1.83	.915	76

Similar to table 29 above, the results generally show that the respondents' mean with regard to their expectations and perceptions of the AKU library was high (mean = 5.9), that is, within the range of "somewhat agree" to "strongly agree". Since the questionnaire sought to find out the highest academic qualification for the respondents it provided various options which were coded during the data analysis: diploma - 1, bachelors – 2, Masters – 3 and others – 4. Table 29 shows that the highest academic qualification mean for the respondents' was 1.8 and this can be interpreted as coding number 2, that is, a Bachelors degree.

Table 30. Correlations between user expectations, user perceptions and highest academic qualification

		User Expectation Mean	User Perception Mean	Highest Academic Qualification
User Expectation Mean	Pearson Correlation	1	.861**	.009
	Sig. (2-tailed)		.000	.940
	N	77	76	75
User Perception Mean	Pearson Correlation	.861**	1	-.029
	Sig. (2-tailed)	.000		.806
	N	76	76	74
Highest Academic Qualification	Pearson Correlation	.009	-.029	1
	Sig. (2-tailed)	.940	.806	
	N	75	74	76

** . Correlation is significant at the 0.01 level (2-tailed).

Table 30 shows that the correlation between the user expectation mean and users' highest academic qualification is a weak positive correlation significance of 0.009, at the 0.01 level (2-tailed). The table also shows that the correlation between user perception mean and highest academic qualification is a weak negative correlation significance of -0.029 (2-tailed). Since the p-value > 0.05, there is no statistically significant difference between the highest academic qualification of the user expectation and the user perception. The data therefore suggests that the highest academic qualification of AKU library users has no influence on the expectations and perceptions of AKU library services.

4.8.5 Correlations between user expectations, user perceptions and number of years in the institution

The tables that follow show the correlation between user expectations, and user perceptions with regards to the number of years in the institution. Table 31 shows the descriptive statistics for the user expectation mean, the perception mean and the number of years in the institution, while Table 32 provides further data from inferential statistics to demonstrate the correlation.

Table 31. Descriptive Statistics for Correlations between user expectations, user perceptions and number of years in the institution

	Mean	Std. Deviation	N
User Expectation Mean	5.9868	1.04809	77
User Perception Mean	5.9405	1.09255	76
Number Of Years In the Institution	2.42	1.190	78

Table 31 above shows that the respondents mean number of years in the institution, that is, AKU was on average 2 years.

Table 32. Correlations between user expectations, user perceptions and number of years in the institution

		User Expectation Mean	User Perception Mean	Number Of Years In the Institution
User Expectation Mean	Pearson Correlation	1	.861**	-.033
	Sig. (2-tailed)		.000	.777
	N	77	76	77
User Perception Mean	Pearson Correlation	.861**	1	-.036
	Sig. (2-tailed)	.000		.760
	N	76	76	76
Number Of Years In the Institution	Pearson Correlation	-.033	-.036	1
	Sig. (2-tailed)	.777	.760	
	N	77	76	78

**. Correlation is significant at the 0.01 level (2-tailed).

From the results in Table 32 it can be noted that the correlation between the users' expectation mean and number of years in the institution was a weak negative correlation significance of -0.033, at the 0.01 level (2-tailed). The table also shows that the correlation between the user perception mean and number of years in the institution was also a weak negative correlation significance of -0.036, at the 0.01 level (2-tailed). In both cases the p-value > 0.05, and hence indicating that there is no statistically significant difference between the users' number of years in the institution and the user expectation and the user perception. The data therefore suggests that the number of years a user has been at AKU does not influence what they expect AKU library should possess as well as how they perceive the quality of AKU library services sentence

4.9 Summary of the chapter

This chapter presented the findings of the data collected by means of a self-administered questionnaire. The organization of the various sections was guided by the structure of the questionnaire to capture the results in tables and graphical illustrations and organized in a manner that best answers the research questions indicated in Chapter 1, section 1.

The findings generally show that the expectations of the respondents were higher than their perceptions. This indicates that there are service gaps that require to be addressed in order to meet the needs of the users. The findings also showed that there was no significant relationship between the demographic factors and the expectations and perceptions.

The major findings of the study are interpreted and discussed in the subsequent chapter.

CHAPTER 5: INTERPRETATION AND DISCUSSION OF FINDINGS

5.1 Introduction

This chapter draws on the findings and analysis presented in Chapter 4 to interpret and discuss in line with the research objectives and questions. The information which was gathered for the literature review is also used in this chapter to compare with the findings of this study. As mentioned in Chapter 3, Section 3.7 it is not adequate to merely provide descriptive measurements and statistics in research and therefore this chapter ensures that the data collected is aligned to the research questions. This chapter also attempts to integrate the findings of the study to the theoretical framework vis-à-vis literature review of the study as well as show how the data can be generalized to the population being studied

The purpose of this study was to investigate the quality of AKU library services based on the satisfaction of the library users with the services and as expressed by and based on the users' expectations and perceptions. This was according to Total Quality Management (TQM), the underlying philosophy that guided the study; a philosophy that is customer oriented and lays great emphasis on enhancing customer satisfaction. The interpretation of the findings was therefore guided by the following key themes arising from the findings:

1. The variables that determine users' perception and expectation of AKU library service quality.
2. Variables of service quality which meet or exceed AKU library users' expectations.
3. The services at AKU library which fall short of the user expectations.
4. The gaps between AKU library users' expectations and perceptions of AKU library service quality.
5. The difference in AKU users' expectations and perceptions in terms of the demographic variables of faculty and students.

5.2 Response rate

Generally there were more student respondents than faculty respondents in this study and this could be attributed to the number of students compared to the number of faculty members at AKU. The undergraduate nursing students however appeared more willing to participate in the study than the postgraduate medical students' sample. This was also similar for the nursing faculty sample and medical faculty sample

Though there has been a lot of discussion with regards to what is the adequate response rate for analysis and reporting, Babbie and Mouton (2001:261) indicate that there is a consensus of 50% being adequate for analysis and reporting while 60% and 70% being good and very good respectively. We can therefore conclude that this study having produced 63% response rate is an adequate response rate that can be representative of the sample population.

5.3 Variables that determine users' perceptions and expectations of AKU library service quality

As explained in Chapter 1, Section 1.2.4 and Section 1.2.5, the term "expectation" in the context of service quality was used to show what the library user feels the library should provide or rather what the library should possess while the term "perception" in the context of service quality was used to depict how well the library already possesses the feature or service described.

In this study the AKU library users were required to indicate what library services they expect or rather feel that AKU library should provide or possess i.e. their expectations. The users were also required to indicate the extent to which they believed AKU library already provides the services i.e. their perception. The respondents were provided with a questionnaire that had 30 service quality statements under the following 7 variables: Assurance, Collection & Access, Empathy, Library as Place, Reliability, Responsiveness and Tangibles. Since the questionnaire was divided into a section for expectation and

another for perception, the same 30 service quality statements under the aforementioned variables appeared in both the expectation and perception sections. The respondents were to rate each statement on a Likert scale of 1 to 7 whereby 1 implied that the respondent strongly disagrees and 7 implied that the respondent strongly agrees to the statement in order to show the extent of their expectation of AKU library as well as their perception of AKU library.

Generally the respondents gave a rating of 6 and 7 for the service quality statements for both expectations and perceptions; with a majority of respondents indicating a rate of 7. This means that the majority of the respondents strongly agreed with most of the service quality statements in view of what they expect AKU library should possess as well as the services that already exist at AKU library. As explained in Chapter 4, Section 4.3, the researcher assigned verbal qualifiers for the Likert Scale rates for ease of data analysis as well as for ease of explanation. The verbal qualifier assigned for 6 on the Likert Scale was the term “agreed” while the qualifier for 7 was the term “strongly agreed”. Hence it can be stated that the study found the expectations and perceptions of most AKU library users was between those who agree and those who strongly agree. This can be expounded further to mean that most AKU library users either agree or strongly agree AKU library should possess all the service qualities under the provided variables. In addition most AKU library users also agree or strongly agree that AKU library already possesses the features or services indicated.

According to the findings of the study therefore, AKU library users perceive the aforementioned seven service quality variables as important features of a library. The findings of the study also indicate that AKU library has made considerable effort towards meeting the expectations of AKU library users. This indication of the considerable effort of AKU library is represented by the mode and the mean of AKU library users’ perception as analysed in the study.

5.4 Variables of service quality that meet or exceed AKU library users' expectations

With regards to AKU library users' expectations of AKU library services, the study shows twelve (12) service quality statements that score a mean rate between 6 and 6.16 while the users' perceptions indicate three (3) service quality statements that score a mean rate between 6 – 6.03. As explained in Chapter 4, section 4.3 a mean of 6 can be verbally translated to mean that AKU library users generally agree with the majority of the service statements in regards to their expectations and perceptions of AKU library services. Notably the perception mean rates of the AKU library users are not as high as the AKU library users expectations mean rate. The three (3) service quality statements that have the highest mean rate can be interpreted to mean that these are the service areas at AKU library that meet or exceed the expectations of AKU library users. These services are as follows:

1. Library staff provide services in a timely manner – **(Reliability)**
2. Digital online materials can be accessed from a computer – **(Collection & access)**
3. Resources are delivered timeously – **(Collection & access)**

From the above three (3) quality service statements it can be extrapolated that the service quality variables that meet or exceed AKU library users' expectations are the reliability and collection & access of AKU library services. In addition we can arguable state that these are the variables AKU library users find most important. Collection & access, as well as reliability are indisputably very important services in an academic setting such as AKU. Furthermore, being predominantly a healthcare education institution, it is no wonder that the users of AKU expect the collection to be available in a timely manner. In addition, due to the fact that teaching at AKU is a combination of classroom teaching and sessions in the clinical setting, the access of information from computers is evidently important as this enables the students and faculty to have access to information at all time. This therefore ensures that access to information is not limited to the opening hours of the physical library. Notably the findings in the study are similar to various other studies as mentioned in Chapter 2, section 2.6, that showed reliability as being the

dimension that is considered the most important by users when evaluating the quality of library services (Shoeb & Ahmed 2009:195).

5.5 Services at AKU library that fall short of the user expectations

Services that fall short of the users' expectations can be interpreted as those services with the lowest perception mean. This is because, as earlier mentioned, perception is seen as how well AKU library provides services in view of the users' expectation. The five service quality statements with the lowest perception mean as revealed in the study are as follows:

1. Library facilities are visually appealing (such as computers, audio visual) – **(Tangibles)**
2. Library Online Catalogue is easy to understand – **(Collection & Access)**
3. Equipment in the library is modern and in good condition – **(Tangibles)**
4. Convenient opening and closing hours – **(Collection & Access)**
5. Library material (such as brochures, statements or signs) associated with services are visually appealing – **(Tangibles)**

From the above five (5) quality service statements the study can extrapolate that the tangible attribute as well as the collection & access attribute are the service quality attributes that fall short of AKU library users' expectations. It is interesting to note that the collection & access attribute are also indicated as a variable that meets or exceeds the users' expectations. Though collection & access also appear as an attribute that meets the expectations of the AKU library users it shows that not all service quality statement items under the collection & access variable meet their needs. This is therefore an indication that there is still need for improvement within the collection & access of the AKU library services. Hence AKU library should critically review all the service quality statement items which are part of the collection & access variable and those that fall short of the users' expectations be addressed. Those that the study identifies as falling short of the library users' expectations are the online library catalogue which users perceive to be difficult to understand and the library opening hours which users feel are not convenient.

In addition, the AKU library needs to review the facilities and equipment as the study identifies these as not being appealing and in good condition.

It is also interesting to note that out of the five (5) service quality items with the lowest perception mean, three (3) are service items referring to the tangibles attribute. Hence extrapolating from the findings of the study it is evident that the tangibles of AKU library fall short of AKU library users' expectations.

Notably the one case study by Nitecki (1996:182) using SERVQUAL shows consistency in what users consider to be important when evaluating service. In the study, tangibles were found least important while reliability were perceived to be most important.

5.6 Gaps between AKU library users' expectations and perceptions of AKU library service quality

The study reveals that more service quality statements have a negative score than those with a positive score. This means that there are more service qualities at AKU library that do not meet the expectations of AKU library users. As indicated in Chapter 1, Section 1.5.2, the SERVQUAL questionnaire was developed on the notion that to deliver high quality service there should be no gap between the users' expectations and perceptions (Tuomi 2001:4). A positive score means that the library service provided is of high quality while a negative score means that the service is of low quality (Somaratna, Peiris & Jayasundara 2010:2). In this study 18 out of the 30 service quality statements have a negative score and this is a significant number of items. Only one service quality statement item has no gap namely: required resources are available.

Since it is important for any library to ensure that it meets the users' expectations by providing high quality service, the study reveals the service quality statements with the highest gaps as follows:

1. Library staff provide services accurately with minimum interruption i.e. **Reliability** (Gap = -0.37).

2. Library facilities are visually appealing; such as computer, audiovisual i.e. **Tangibles** (Gap = -0.31).
3. Library Staff understand the needs of the users i.e. **Empathy** (Gap = -0.21).
4. Library materials (such as brochures, statements or signs) associated with services are visually appealing i.e. **Tangibles** (Gap = -0.20).
5. Library staff promptly serve users i.e. **Responsiveness** (Gap = - 0.20)

From the above mentioned five (5) service quality statements the study can extrapolate that the service quality attributes with the largest gaps at AKU library are: Reliability, Tangibles, Empathy and Responsiveness. The study found the reliability attribute especially with regards to the provision of library services accurately by the AKU library staff has having the highest gap score. The negative gap score for the said service is - 0.37. Notably other AKU library services with a negative gap score that are associated with library staff and the provision of library services are services within the empathy attribute and responsiveness attribute. The study found that within the empathy attribute there was a negative score of 0.21 (-0.21) in regards to AKU library staff understanding the needs of the users. With regards to the responsiveness attribute the study finds a negative score, that is -.20, in the service statement that sought to find out how prompt AKU library staff are when serving users.

These aforementioned findings of this study are notably consistent with those of Nagata et al (2004) as well as the study by Ahmed & Shoeb (2009:30) where the largest gaps are those service quality items related to library collection and items related to staff. In the said studies the main problems are mainly related to “reading resources, poor quality of services by library staff and lack of modern equipment” (Ahmed and Shoeb 2009:30).

In addition, the study reveals that the tangibles, facility and equipment such as computers, as well as AKU library publicity material such as brochures and signage fall short of the library users’ expectations. The study identifies these tangibles as having one of the highest gaps, that is, -0.31. The service with a high negative score under the tangible attribute refers to the libraries equipment and facility whereby users do not appear to find

them appealing. This is therefore one service area that the AKU library should review and attempt to identify the best way to improve in order to meet the needs of the AKU library users. Similarly to the study by Tuomi (2001:10) that found the tangibles as having the highest service quality gap, the researcher provides a suggestion similar to that of Tuomi that “this may be an indicator of the library having not invested in physical facilities, equipment etc.” Some of the problems that may be identified with equipment such as computers may include speed, bandwidth, and the number of computers available for users. With regards to physical facilities the service quality gap may be as a result of inadequate space for different activities, for example, the lack of discussion rooms for users in the library.

5.7 Difference in AKU users’ expectations and perceptions based on the demographic variables

A study by Sahu (2007:242) shows that users of the library were satisfied with all aspects of service quality apart from communication and responsiveness. It is important to note that this study shows a significant difference in how students and faculty perceive quality. This brings the aspect of stratifying the study population into user categories such as faculty and students in order to investigate whether there is a difference between the AKU students and faculty expectations and perceptions. This would also assist in coming up with results and recommendations that suit all user groups. The study however reveals that there is no relationship between the users’ expectations and perceptions based on the various demographic variables. This is to say that the user categories, age, highest academic qualification as well as the number of years in the institution do not influence the expectations and perceptions of the users. Notably the number of years a user has been at AKU does not influence the expectations and perceptions and these findings are different from the Carman’s study on “Consumer perceptions of service quality” (1990) which imply that expectations may change over the years as users become familiar with the services.

5.8 Summary of the chapter

This chapter interpreted and discussed the findings of the study in an objective manner. This was done by using the descriptive statistics to describe the results and inferential statistics in Chapter 4 to make inferences. This chapter interpreted and discussed findings and significant relationships and differences between the variables in the study as drawn from the sample population.

The study reports a 63% response rate which is adequate and can be considered representative of the AKU library users' sample population.

Generally, the majority of the respondents agree that AKU library should provide most of the services aligned to the various service attributes namely: assurance; collection & access, empathy, library as a place, reliability, responsiveness and tangibles. The discussion in this chapter shows that the findings of the study are consistent with the findings of other studies. One of the area that is consistent is the reliability dimension that users consider to be the most important when evaluating the quality of library services. The service under the reliability dimension that AKU library users identified is the need for AKU library staff to provide services in a timely manner. In addition, the largest gap, that is, the largest negative score, is also consistent with other studies. This gap is in the tangible dimension whereby AKU library users imply that AKU library facilities and equipment as well as the signage fell short of their expectations. However the study shows different findings from the Carman's study which suggested that the number of years a user has been at an institution may affect the users' expectations and perceptions. The current study shows that there is no relationship between the AKU library users' expectations and perceptions and the number of years the users have been at AKU.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter draws on the findings, analysis and discussion presented in Chapter 4 and 5 to provide conclusions and recommendations with regards to the adoption of the Total Quality Management (TQM) philosophy towards the evaluation of the quality of the AKU library services. The information provided and discussed in the previous chapters also serves as a background against which the conclusion and recommendations will be presented and interpreted. This is in an effort to answer the research questions and subsequently address the objectives of the study. As mentioned in Chapter 1, section 1.3.2, the study aims to achieve the following objectives:

1. To review the applicability of TQM in academic libraries
2. To review the variables that determine the users' perception' and expectation' of library service quality
3. To review user based assessment tools for evaluating library service quality
4. To determine the gaps between AKU library users expectations and perceptions of AKU library service quality
5. To investigate the attributes of service quality that meet or do not meet AKU library users' expectations and expectations
6. To investigate demographics that may influence AKU library users' expectations and perceptions of AKU library services

6.2 Summary of the study

The purpose of the study was to investigate the quality of Aga Khan University (AKU) library services based on the satisfaction of the library users with the services as expressed by and based on the users' expectations and perceptions. The aim was to establish the users' expectations and perceptions of the AKU library service quality as well as to identify gaps between the users' expectations of AKU library services and the users' perceptions of existing AKU library services. The Total Quality Management (TQM) philosophy formed the basis of the study and this is because the philosophy recognises that the customer should be the focus of any service provided. The study was conducted based on the problems discussed in Chapter 1, Section 1.3.1, which were identified as obsolete ways of evaluating the quality of library services. The need to embrace objective and user-based assessment tools when evaluating the quality of library services was identified as essential in providing quality library services and subsequently ensuring that library users are satisfied. As mentioned in Chapter 1, Section 1.8, this is a quantitative study that collected data from a sample population by use of a structured self-administered questionnaire.

The key results emerging from the literature review and the findings of the study are summarised in this chapter, with an aim to conclude and provide recommendations.

6.3 Service quality at Aga Khan University Library

Academic libraries striving towards improving their services should use appropriate, standardized and user based tools when evaluating the quality of the services they provide. This is because libraries in an academic environment play a major role in the provision of information and services towards the support of students and faculty academic and research needs. As mentioned in Chapter 1, Section 1.5 the information era has tremendously changed as a result of a rapid growth of information as well as a change in user behaviour and hence libraries need to objectively evaluate the services they

provide so as to ensure that they meet the needs of the users. Libraries therefore need to be evaluated with regards to how they offer various services as opposed to simply what services they offer to users. The aforementioned need for appropriate evaluation of library service quality is in line with various studies that have indicated that libraries have for a long time used obsolete methods of evaluating quality such as the collection size, opening hours among others.

Due to the complexity of evaluating quality it is then important for the library to identify an appropriate method of ensuring service quality is realised. The study has demonstrated that it is useful for libraries to adopt a TQM methodology in evaluating the quality of library services. This is because the philosophy is founded on the need to ensure that library users' needs are identified and subsequently satisfied. Based on this aspect of identifying the needs of the users it is essential to apply a user based assessment tool such as SERVQUAL. This was a very useful tool in evaluating the quality of AKU library services as the study was able to identify the expectations and perceptions of AKU library users as well as the gaps in the services provided by AKU library. It may subsequently enable the AKU library staff to identify areas that require improvement. Since each service quality attribute has a number of services aligned to it, it is important to identify the exact service that shows a gap between the users' expectation and the users' perception. For example, as mentioned earlier the highest gap in the study is the reliability attribute but specifically with regards to the way the library staff provides services accurately and with minimum interruption. In this context it is therefore acceptable to indicate that the identification of users' needs and expectations is essential to better understand their needs and subsequently respond to them through the provision of quality services.

It is evident from this study that although the Aga Khan University Library has been carrying out sporadic surveys in an attempt to evaluate the quality of its services, the library has yet to comprehensively meet the expectations of the users. This is apparent from the gaps between the library users' expectations and perceptions as revealed by the study. The gaps in the quality of AKU library services may also be attributed to the

absolute methods the library has been using over the years in evaluating the library service quality and these methods have not effectively identified the service gaps. The obsolete methods being referred to are primarily the input based methods whereby the AKU library attempts to evaluate the quality of its services by its number of books, opening hours and circulation, among others. In addition, there is no evidence that the library carried out a survey using a user based assessment tool such as SERVQUAL. While trying to remain competitive and relevant in a challenging environment it is therefore important that the AKU library ensures it identifies the users' perceptions and users' expectations of its library services in order to identify the needs of the users and work towards meeting these needs.

In addition the study also sought to evaluate the gaps between the users' expectations and perceptions with the basic assumption that, if a negative score is obtained this would mean that the service delivery is below the expectation of the users and a positive score would mean that the service delivery exceeds the expectations of the users. Since the study found more services with a negative score than those with a positive score, this means that there are more services at AKU library that do not meet the expectations of AKU library users than those that do. This is evidently a clear indication that a lot more effort is required towards meeting the expectations of AKU library users and subsequently in ensuring quality service at the AKU library. This is because the SERVQUAL instrument used in the study was developed based on the notion that to deliver high quality service there should be no gap between the users' expectation and perception.

From the findings of the study, AKU library should give priority to improving services related to its Reliability, Tangibles, Empathy and Responsiveness attributes. According to the findings of the study, the specific services that need to receive priority in order to meet the expectations of the users and subsequently provide quality services are those services related to the library collection as well as staff related service items. The study shows that "a consumer's overall service quality is the accumulation of multiple experiences (Sharma, Anand & Sharma 2010:2) as well as a "multi-faceted concept

(Somaratna & Peiris 2011:1) and hence it is important to standardize the tasks and behaviours being performed within the library. This is notably as a result of the transformation in the information industry characterised by changing paradigms in the provision of library services as well as changing user behaviour. The transformation in the information industry thus requires the library to adapt to these various changes as a way of ensuring provision of quality services.

The results of this study will hopefully help the AKU library management in identifying its strengths and weaknesses as it strives to meet the needs of AKU library services through the provision of quality services. Identifying its strengths and weaknesses is important at a time where there is anticipated growth of the institution. AKU has continued to experience a growth in the number of students as well as academic programs and in view of this anticipated expansion the AKU library has to definitely align itself to the quality expectations and ensure that it provides services that meet the expectations of the library users.

6.3.1 Recommendations

The study recommends that academic libraries adopt user based assessment tools in the evaluation of service quality as opposed to input based evaluation methods. As mentioned in Chapter 2, section 2.4 it is noted that academic libraries in Kenya adhere to standards outlined by the Commission for Higher Education and these are the standards that the academic libraries in Kenya use in evaluating the quality of their library services. Since these are the standards that academic libraries in Kenya have been adhering to, it is recommended that such statutory bodies incorporate standardized user based assessment tools for the evaluation of library service quality.

As the words *Quality* and *Management* are predominant in the TQM philosophy emphasising the need to continuously identify customers' needs and expectations and to ensure that the customer is satisfied, the study therefore recommends the adoption of TQM philosophy in the ensuring continuous assessment of the service quality of

academic libraries in Kenya. The importance and significance for continuous assessment and improvement in academic libraries in Kenya has also been emphasised in a study by Odera-Kwach (2011:237) in which the author similarly recommends “that CHE consider the introduction of systematic quality indicators and develop a culture of quality to provide for the measurement and monitoring of continuous improvement in universities libraries in Kenya.” The culture of continuous improvement and evaluation of service quality in academic libraries can be realized through the application of quality management principles. Total Quality Management for example is one such management philosophy that advocates for continuous improvement and hence resulting to service quality.

The study also recommends the use of SERVQUAL at AKU library as well as the other academic libraries in Kenya as an instrument which would assist decision makers in directing energies to the right areas in an attempt to improve the services. Data from a survey using SERVQUAL can suggest priority areas with problems that AKU library needs to address. Such data can also assist in identifying service quality gaps which may be arising from staff assumptions of what users like as well as identify services offered in a manner that does not meet users’ needs (Nitecki 1996:185). The use of an instrument such as SERVQUAL can also be justified because the most important aspect of quality service is identifying the expectations of the users (Bryslan & Curry 2001:393). However due to the generic nature of the SERVQUAL evaluation tool, it is further recommended that the tool should be used on a regular basis for comparative purposes (Shahin [s.a]; Bryslan & Curry 2001:323). This means that the SERVQUAL instrument should be administered repeatedly in order to ascertain the true picture of service quality. Studies have shown that the expectations and perceptions of users of a service may change following the long use of the service. It is also necessary to use this tool on a regular basis because the level of the services provided may change and the user expectations may also change. The study also recommends the use of SERVQUAL in other academic libraries in Kenya for further comparison among academic libraries in Kenya and also for the purpose of contributing to the knowledge of research using SERVQUAL from academic libraries in developing countries.

In line with the findings, the study recommends that in order to reduce the large gaps in the service areas relating to AKU library staff, the AKU library management should consider providing more training to staff to enhance their customer service skills. The training should specifically have more focus on how to handle the different users, how to be courteous to the user as well as being more caring to the users. Furthermore AKU library management should develop ways of reducing the turnaround time when providing user services in an effort to improve and provide faster and reliable services to users.

The study suggests that AKU library may have not invested in the physical facilities, equipment etc. and hence recommends the need to provide adequate facilities for AKU library users such as group discussion rooms. Furthermore AKU library should continuously upgrade its equipment such as computers and this may be achieved by ensuring that purchase of new computers is a continuous exercise. The AKU library should also work closely with the Information technology (IT) department to ensure that adequate bandwidth is available for easy and quick access to the information available online.

6.3.2 Further research

This study reveals that the perceptions and expectations of the student population that uses the AKU library services are higher than that of the faculty population that uses the AKU library services. Although the difference was small, further research is recommended to investigate the reasons why the student population seem to have a higher expectation and perception of AKU library services than the faculty population. Further research could be in the form of qualitative research approach whereby in-depth data can be collected using open-ended questionnaires or interviews in order to gain further understanding as to why the expectations and perceptions of the students population at AKU library is higher.

This study reveals that it is important for libraries to apply averred management principles and philosophies such as TQM to ensure service quality vis-à-vis customer satisfaction. Through this study it was identified that the TQM philosophy involves a wide range of aspects, however studying the whole range is beyond the scope of any one study. Hence further research is recommended to investigate how other aspects of a management principle such as TQM can be applied to improve the quality of AKU library services.

This study was based on a case study conducted at the AKU library and hence the findings cannot therefore necessarily be generalised to other academic libraries in Kenya. However the findings of the study based at AKU library can form the foundation for further research in other academic libraries in Kenya. Further research is therefore recommended to investigate service quality using user based assessment tools such as SERVQUAL in other academic libraries in Kenya. This will provide more conclusive information that can be used in a developing country like Kenya in regards to the evaluation of library service quality.

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Appendix 1: Consent Letter to Respondents

I am conducting a study titled: **“Application of Total Quality Management in evaluating the quality of library services at Aga Khan University (AKU) library”** in fulfillment of the requirements for the Degree of Master of Arts in Information Science at the University of South Africa (UNISA). This study aims to evaluate the quality of service at AKU library as an example of an academic library in Kenya. The purpose of this study is to investigate the quality of AKU library services based on the satisfaction of the library users with the services and based on the users’ expectations and perceptions. This study is guided by the Total Quality Management (TQM) philosophy; a philosophy that is customer oriented and lays great emphasis on enhancing customer satisfaction.

You are kindly requested to participate in this study by completing a questionnaire. The information that you provide will form part of the findings of this study and will be important as it will raise awareness in Kenya on the evaluation of quality of library services using user based assessment tools.

Please note that participation to this survey is voluntary. All information given during the survey is confidential and no names or information that may identify you will be used.

Enclosed please find a copy of the questionnaire. The questionnaire which is 5 pages, makes use of a seven point scale ranging from “Strongly disagree” (1) to “Strongly agree” (7)s and is divided into 3 parts as follows:

Part I: Background information

Part II: Your expectations of AKU library services. Expectation is defined as what the customer wants or what the customer expects the library to provide.

Part III: Your perception of AKU library services. Perception is how well the library provides services vis-à-vis the users’ expectations about how the services should be.

Please complete the questionnaire and send to the library (addressed to my attention) using the enclosed envelope and please do not indicate your name so as to ensure that the information provided remains anonymous. What you share in this questionnaire will be anonymous and confidential so please answer the questions honestly. The questionnaire will take approximately 20 minutes to complete and I shall be grateful if you would return it to me by 27 September 2013.

I am happy to discuss with you any concerns you may have about this study, and you can contact me on Ext 2039 Mobile 0722 706702 Email: nasra.gathoni@aku.edu

Thanking you for your cooperation,

Yours faithfully
Anne Gathoni

Appendix 2: Data Collection SERVQUAL Questionnaire

A SURVEY ON THE APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM) IN EVALUATING LIBRARY SERVICE QUALITY AT THE AGA KHAN UNIVERSITY LIBRARY

Dear Participant,

Thank you for accepting to participate in this research. This research is part of my fulfilment for a Master's degree in Information Science at the University of South Africa.

Please do not write your names on the questionnaire. What you share in this questionnaire will be anonymous and confidential so please answer the questions honestly.

This survey deals with your opinions of Aga Khan University (AKU) library services and the questionnaire is divided into three parts:

Part I: Background information

Part II: Your expectations of AKU library services. Expectation is defined as what the customer wants or what the customer expects the library to provide.

Part III: Your perception of AKU library services. Perception is how well the library provides services vis-à-vis the users' expectations about how the services should be.

Part II and III applies the SERVQUAL questionnaire which makes use of a seven point scale ranging from "Strongly agree" (7) to "Strongly Disagree" (1)s.

Kindly complete the questionnaire and return to the undersigned via the Aga Khan University Library at the earliest.

Anne Gathoni

THE SERVQUAL QUESTIONNAIRE

PART I BACKGROUND INFORMATION

1) User category:

(Please tick one appropriate bracket)

Nursing Student	()	1
Medical Student	()	2
Nursing Faculty	()	3
Medical Faculty	()	4

2) Gender:

Male	()	1
Female	()	2

3) Age:

25 – 30 years	()	1
31 – 35 years	()	2
36 – 40 years	()	3
41 – 45 years	()	4
46 – 50 years	()	5
51 and above	()	6

4) Highest academic qualification.

(Please tick one appropriate bracket)

Diploma	()	1
Bachelors	()	2
Masters	()	3
PHD	()	4
Other (please specify)	()	5

5) Number of years in the institution:

Less than 1 year	()	1
1 – 3 years	()	2
4 – 6 years	()	3
7 – 9 years	()	4
10 years and above	()	5

PART II EXPECTATIONS

Please show the extent to which you think AKU library services should possess the features described by each statement. Do this by ticking one of the seven numbers next to each statement. If you strongly agree that AKU library should possess a feature, circle 1.

If your feelings are not strong, tick one of the numbers in the middle. There are no right or wrong answers; all we are interested in is a number that best shows your expectations about AKU library services.

		1	2	3	4	5	6	7	CODE
	Assurance (AS): This assesses the knowledge and courtesy of the library staff and their ability to transmit confidence.								
AS-1	Assuring users of the accuracy and confidentiality of their personal information (AS-1)								
AS-2	Information from library resources meet users course needs (AS-2)								
AS-3	It is easy to make a compliment, complaint or suggestion about condition (AS-3)								
AS-4	Library staff are always courteous (AS-4)								
AS-5	Library staff are knowledgeable to answer users query (AS-5)								
	Collection & Access (CA): This evaluates the library materials, and ability to reach out for something and getting it when it is needed.								
CA-1	Convenient access to library collection (CA-1)								
CA-2	Digital or online resources can be accessed from PC (CA-2)								
CA-3	Library online catalogue is easy to understand and navigate (CA-3)								
CA-4	Library website contains necessary information (CA-4)								
CA-5	Physical condition of resources in collection is good (CA-5)								
CA-6	Required resources are available (CA-6)								
CA-7	Resources are delivered timeously (CA-7)								
	Empathy (EM): This assesses the behaviour, attitude and approach of the library staff towards users.								
EM-1	Convenient opening hours (closing and opening hours) (EM-1)								
EM-2	Giving priority to the users interests (EM-2)								
EM-3	Library staff give individual attention to the users (EM-3)								
EM-4	Library staff understand the needs of the users (EM-4)								
EM-	Library staff who deals with users in a concerned or								

5	considerate manner (EM-5)								
	Library as Place (LP): This refers the Library as a place fitting for the purpose.								
LP-1	A comfortable and inviting location (LP-1)								
LP-2	Space that enables quiet and calm study (LP-2)								
	Reliability (RL): This measures to the delivery of the service as it relates to dependability and accuracy.								
RL-1	Dependability in handling user's service problems (RL-1)								
RL-2	Library staff provide services accurately with minimum interruption (RL-2)								
RL-3	Library staff provide services as promised (RL-3)								
RL-4	Providing services at the promised time (RL-4)								
	Responsiveness (RS): This refers to the readiness of library staff in providing the service.								
RS-1	Library staff have willingness to help user (RS-1)								
RS-2	Library staff keep users informed about when services will be performed (RS-2)								
RS-3	Library staff serve promptly to the users (RS-3)								
RS-4	Readiness to respond to user's questions (RS-4)								
	Tangibles (TA): This evaluates the appearance of physical facilities, equipment, and communication material.								
TA-1	Equipment is modern and in good condition (TA-1)								
TA-2	Facilities are visually appealing (such as computer, audio-visual etc.) (TA-2)								
TA-3	Materials (such as brochures, statements or signs) associated with the services are visually appealing (TA-3)								

PART III PERCEPTIONS

The following set of statements relate to your feelings about AKU library. For each statement, please show the extent to which you believe AKU library has the feature described by the statement. Once again, ticking a 7 means that you strongly agree that AKU library has that feature, and ticking a 1 means that you strongly disagree. You may tick any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answer, all we are interested in is a number that best shows your perceptions about AKU library.

		1	2	3	4	5	6	7	CODE
	Assurance (AS): This assesses the knowledge and courtesy of the library staff and their ability to transmit confidence.								
AS-1	Assuring users of the accuracy and confidentiality of their personal information (AS-1)								
AS-2	Information library resources meet users course needs (AS-2)								
AS-3	It is easy to make a compliment, complaint or suggestion about condition (AS-3)								
AS-4	Library staff are always courteous (AS-4)								
AS-5	Library staffs are knowledgeable to answer users query (AS-5)								
	Collection & Access (CA): This evaluates the library materials, and ability to reach out for something and getting it when it is needed								
CA-1	Convenient access to library collection (CA-1)								
CA-2	Digital or online resources can be accessed from PC (CA-2)								
CA-3	Library online catalogue is easy to understand and navigate (CA-3)								
CA-4	Library website contains necessary information (CA-4)								
CA-5	Physical condition of resources in collection is good (CA-5)								
CA-6	Required resources are available (CA-6)								
CA-7	Resources are delivered timeously (CA-7)								
	Empathy (EM): This assesses the behaviour, attitude and approach of the library staff towards users.								
EM-1	Convenient opening hours (closing and opening hours) (EM-1)								

EM-2	Giving priority to the users interests (EM-2)								
EM-3	Library staff give individual attention to the users (EM-3)								
EM-4	Library staff understand the needs of the users (EM-4)								
EM-5	Library staff who deals with users in a concerned or considerate manner (EM-5)								
	Library as Place (LP): This refers the Library as a place fitting for the purpose.								
LP-1	A comfortable and inviting location (LP-1)								
LP-2	Space that enables quiet and calm study (LP-2)								
	Reliability (RL): This measures to the delivery of the service as it relates to dependability and accuracy								
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RS-2	Library staff keep users informed about when services will be performed (RS-2)								
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	Tangibles (TA): This evaluates the appearance of physical facilities, equipment, and communication material								
TA-1	Equipment is modern and in good condition (TA-1)								
TA-2	Facilities are visually appealing (such as computer, audio-visual etc.) (TA-2)								
TA-3	Materials (such as brochures, statements or signs) associated with the services are visually appealing (TA-3)								

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Student nr: 36981664

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2001

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1. Last Name KANGURU First Name ANNE Middle Name GATHONI

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UNIVERSITY OF SOUTH AFRICA (UNISA)

6. Abbreviation for degree awarded MInf 7. Year degree awarded 2014

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